Oldbury Camp

A Community-Based Archaeological Excavation, Oldbury-on-Severn

Chris Casswell, Manda Forster and Brendon Wilkins

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Oldbury Camp

A Community-Based Archaeological Excavation, Oldbury-on-Severn

Archaeological Excavation Report

Prepared on behalf of:

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Purpose of document

This document has been prepared as an Archaeological Report for the *A Forgotten Landscape Project* and Historic England. The purpose of this document is to provide a comprehensive account of the archaeological excavations, including the results of fieldwork, specialist reporting and links to the full archaeological record. It is supported by an easily accessible online database of all written, drawn, photographic and digital data.

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Project summary

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The project was managed for DigVentures by Manda Forster, with Brendon Wilkins in the role of Project Executive, supported by Chris Casswell, Maiya Pina-Dacier and Johanna Ungemach. Volunteers from the *A Forgotten Landscape Project* team completed geophysics, with aerial photography and photogrammetry managed by Adam Stamford, Aerial-Cam. The excavation team was supervised with support from Lauren Nofi, Maggie Eno, Barney Harris and Jeff Spanbauer. Specialist advice and assistance was provided by Joanne McKenzie, Karen Averby, Rosalind McKenna, Tim Kinnaird, David Dawson, Matilda Holmes, Josh Hogue, Jane Timby, and Paul Blinkhorn.

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Executive summary

DigVentures Ltd was invited by the *A Forgotten Landscape Project* to undertake a community-based archaeological research project at Oldbury Camp. An initial remote sensing weekend was undertaken in November 2016 (reported on in Wilkins *et al*. 2016). This report details the results of the fieldwork excavation undertaken in 2017 and provides a synthesis of the results from the initial remote sensing survey, followed by a targeted excavation.

The fieldwork excavation phase of work took place between 18 June and 4 July 2017 (DigVentures Project Code: OBC17). The project was designed to: identify the physical extent and character of the Oldbury Camp heritage asset and its environs; understand the development of Oldbury Camp and place it in its multi-period landscape context; understand the site's archaeological and palaeoenvironmental conditions and make recommendations for further analysis and publication of the results.

This report presents results from the excavation stage of fieldwork, incorporating specialist analysis and a synthesis of results from remote sensing. The archaeological works have achieved the aims defined above, with the excavation results adding significant detail to our understanding of the monument within its wider landscape.

Results Summary

Excavation took place in 2017 between 18 June and 4 July 2017 to address the research questions associated with Aims 1 – 3. This entailed a programme of targeted interventions designed to 'ground-truth' the results of remote sensing and metric survey, identifying and investigating any archaeological features encountered, and obtaining appropriate samples for archaeological, artefactual and palaeoenvironmental assessment.

A total of three machine-excavated trenches and five hand-dug test pits were opened in 2017. All data has been recorded by community participants using a web accessible relational database. This is housed on the project microsite (https://digventures.com/oldbury-camp/) and can be explored by following the links shown in green font throughout the report. In addition, excavated features are also navigable through a series of nested 3D models, from the landscape level down to individual test pits and trenches.

The site has been split into four zones to aid discussion of the different areas of the monument. The monument itself comprises a large central area surrounded by banks and ditch, with two smaller areas to the northwest on the site of The Old Forge on Camp Road and outside the monument down Westend Lane (Figure 9).

In total, across both phases of archaeological investigation, five test pits (3, 4, 6, 8 and 20) and one trench (17) were opened in the central area of the hillfort. All test pits in Field 2 targeted geophysical anomalies; however, no archaeological features were encountered. Finds were recovered from topsoil and ploughsoil layers and include predominantly medieval pottery with some later sherds and one earlier fragment of Iron Age pottery. Trench 17 was investigated in the eastern corner of Field 2; a single archaeological feature F1701 was found at the eastern end of the trench below the topsoil layer but post-dating the accumulation of early post-medieval ploughsoils. It comprised a rectangular pit with the poorly preserved, fully articulated remains of a cow in the base. The nature of the buried ploughsoil found in all archaeological interventions made in Field 2 indicates that this land had been cultivated throughout the medieval period and into the post-medieval period.

The banks and ditch were investigated in a number of different locations around the circuit of the monument. Six test pits (9, 11, 12, 13, 14 and 22) and two trenches (15 and 16) were opened across the earthworks to investigate its preservation and to establish how and when it had been constructed. Test Pits 13 and 14 identified the top of the inner bank in Field 6, but in the other test pits it was not. Finds, mostly pottery, recovered from superficial topsoil and subsoil layers in these smaller excavations indicate that there had been a degree of activity on the site during the Roman, medieval and post-medieval periods. Trenches 15 and 16 were excavated on the eastern side of the hillfort in Field 7 where the banks survived to their greatest height. Trench 15 targeted the outer bank and ditch, while Trench 16 focused on the inner bank and ditch. No bank was found in Trench 15, but the ditch was filled by eroded bank material. Pottery recovered from the ditch fills place their deposition in the medieval period, suggesting that the base of the ditch was not found within the excavation area. The same ditch was recorded in Trench 16, the finds assemblage confirming that the ditch had filled predominantly during the medieval period. The inner bank comprised two layers, a soft brown sand overlain by a hard clay 'capping' layer, and survived to a height of almost 2m above a buried soil layer. OSL sampling of profiles from Trench 16 confirm a Late Iron Age date for the initial construction of the hillfort inner bank.

Test Pits 18 and 19 were placed on the projected line of the earthworks on the northwest side of the monument; however, no evidence was found for them. Instead these test pits highlighted activity on the site of The Old Forge. A varied finds assemblage was recovered from both pits, including numerous sherds of post-medieval pottery and many small fragments of coal, slag and iron. The high number and variety of pottery types present reflects the development of the settlement during the 17th and 18th centuries, and the presence of fuel and fuel waste a reminder that the site had in a previous life been used as a forge. A stone surface, believed to have been an extension of an old road or yard was found towards the base of Test Pit 19, overlying what has been interpreted as a truncated medieval ploughsoil.

Beyond the circuit of the monument and outside the core village, a single test pit (Test Pit 21) was opened in the back garden of High Chimneys, Westend Lane. Finds recovered reveal a modern date for the formation of topsoil and subsoil layers, but the nature of the earlier layers suggests that they were typical for a small-scale 'plot' or 'garden' cultivation.

The investigations at Oldbury Camp have dated the construction of the monument to the later Iron Age, supporting its classification as a hillfort. This work has highlighted an agricultural use of the site throughout the medieval period and identified the development of the village into the post-medieval period. The results of this project indicate that the extant earthworks on the eastern side of the archaeological asset have a good level of preservation, but where residential development has been made to the north and west the banks were harder to identifiy. Internal features within the monument were not found in any of the test pits, trenches or auger holes explored. The presence of a 1m thick layer of medieval and post-medieval ploughsoils in some places across the central area of the monument would however provide protection to any features if they are extant; these ploughsoils would have also impacted the geophysical survey results.

Table of contents

List of tables

List of figures

Appendices

List of appendix tables

List of appendix figures

1 INTRODUCTION

1.1 Project background

1.1.1 DigVentures was invited by the *A Forgotten Landscape Project* team (hereafter 'AFL') to undertake a community-based archaeological research project at Oldbury Camp (hereafter 'the site', Figure 1). The site is a Scheduled Ancient Monument, situated at the heart of the village of Oldbury-on-Severn, South Gloucestershire (SAM list number 1013187). Following consultation with the AFL project team, a project model was devised according to the MoRPHE framework (Management of Research Projects in the Historic Environment - 2006). This approach has been used to design a multi-staged field research project, encompassing aerial survey, archaeological test-pitting (Wilkins *et al.* 2016), geoarchaeological survey (Tetlow 2017) and archaeological excavation (this report). This document presents an analysis of the archaeological excavations undertaken in 2017 incorporating the results of earlier project stages.

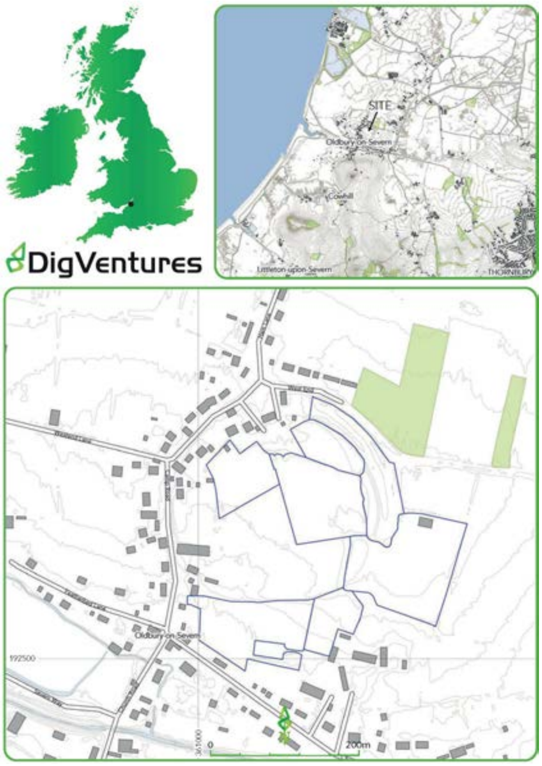

Figure 1: Site location

1.1.2 Scheduled Monument Consent was granted by Melanie Barge (Historic England), acting under direction from the Secretary of State for Culture Media and Sport for this field season. Investigations were supported by a Project Design (Forster *et al.* 2017), with the project taking place between 18 June and 4 July 2017 (DigVentures Project Code: OBC17).

1.1.3 This report is one of a number of archive and dissemination products to have been generated by the project, including the digital archive and metadata, the paper archive and the artefact and environmental material recovered, recorded and processed. All archive material is currently held by DigVentures and selected materials will be deposited with Bristol Museum and Art Gallery (Accession No. 2016/90) and available through OASIS (ID: digventu1-307001). The online digital archive and project microsite can be found here: https://digventures.com/oldbury-camp/

1.2 Project scope

1.2.1 Known locally as 'The Toot', Oldbury Camp is a substantial hillfort located in a strategic but low-lying position overlooking the Oldbury Pill (approximately 200m to the south). It is defined by double bank and ditches on its north and east sides and a single bank to the west. The inner and outer ramparts stand at a height of 1.9m and 1.5m respectively, and the entire monument measures approximately 300m in diameter, enclosing an area of 7ha. In its later history, the site formed the nucleus around which the village of Oldbury-on-Severn developed, but its early origins remain vague and poorly determined. The construction of the monument has been presumed to be Iron Age in date but, although some Iron Age material has been found in the area, none has been recorded from a context that enabled the monument to be dated.

1.2.2 The overarching aim of the project was to define and characterise the physical extent of the site through a programme of non-intrusive investigation and intrusive excavation. The combined results will provide baseline data to facilitate the future management of the site (see Aims and objectives, Section 3). An assessment of previous work at the site, including archaeological evaluation (principally through development control work) and geophysical survey (undertaken by AFL volunteers), provided the background for the project. In addition, DigVentures coordinated a weekend of test-pitting at the site in 2016 (Wilkins *et al.* 2016), in order to provide an initial assessment of the archaeology of the monument, and an aerial survey which produced a 3D model of the monument in its landscape. Additional work included geoarchaeological assessment which investigated the nature of deposits across the site in order to identify the extent, nature and potential for archaeological survival (Tetlow 2017). This work combined to inform the development of a robust Project Design, outlining the strategy for more extensive archaeological excavation and research (Wilkins *et al.* 2016).

1.2.3 In June 2017 the archaeological excavation investigated two main areas of the northeastern quadrant of the monument. Two trenches were located over the banks and inner ditch, and one trench in the central area of the monument. These trenches were located to understand the development of Oldbury Camp, its chronological phasing and the nature of archaeological deposits (see Aims and objectives, Section 3). In addition, a number of test pits were excavated in garden locations around the surrounding village, in order to identify any surviving bank material and explore the development of the settlement. An interim report (Wilkins *et al* 2016) outlined the results of the excavations, including specialist assessment, and this report provides full analysis of the investigations.

1.3 Site description

1.3.1 Oldbury-on-Severn (NGR ST 61069 92717) is a village located 4km northwest of Thornbury in South Gloucestershire (Figure 1), and lies on an 'island' of Mercia Mudstone geology within a wider landscape dominated by tidal flat deposits of clay and silt (BGS 2017). The monument lies on land approximately 13m OD; 5m higher than the land surrounding it. Although current visibility is limited by housing and managed hedgerows, if it were not for these the site would have had sight of the River Severn to the west and Oldbury Pill to the south. In addition to this, its position would have afforded views south to higher ground now occupied by St Arilda's Church, across tidal flats east towards higher ground near Thornbury, and an unbroken view north across flat, lower-lying land (Figure 2). The village itself consists of light residential housing around Church Lane and Chapel Road to the south of the monument, and Camp Road which runs through the line of its ditch on the western side. Oldbury Camp and the surrounding landscape are predominantly pasture, with the local farming economy focused on grazing livestock.

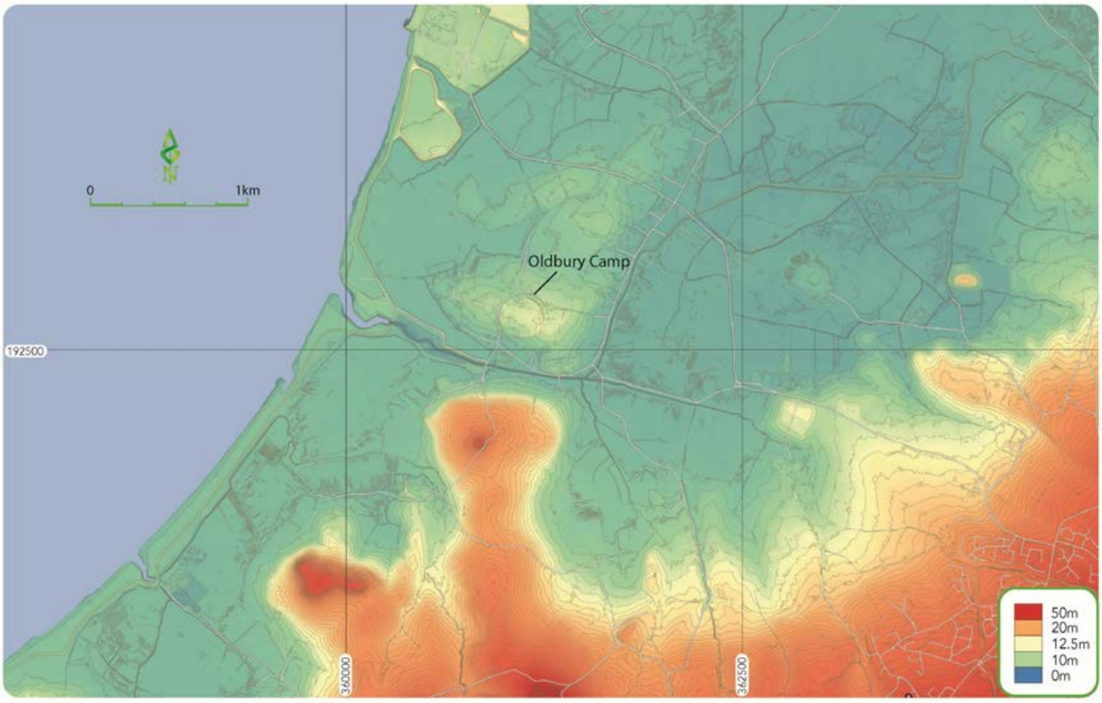

Figure 2: Digital Elevation Model of the landscape, derived from 2m lidar data

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Research context

2.1.1 Though designated as one of 'a small and poorly understood group of hillforts peripheral to a major group situated in the Cotswolds' (Historic England 2016), Oldbury Camp defies its own classification – neither situated on a hill nor exhibiting clear evidence for the origin, function and subsequent history of the enclosure. The location, setting and form of the site, being low-lying and bivallate, makes it comparable to a series of sites identified across lowland Britain, which have been termed 'marsh-forts' (Haselgrove *et al* 2001). These sites generally date to the Early Iron Age, occupying similar low-lying 'wet' locations, confirming that multivallation in the British Iron Age is not a feature restricted to hillforts (Fletcher 2007, 170).

2.1.2 Constructed on a bedrock island above tidal saltmarshes, Oldbury Camp shares many similar characteristics to these enigmatic sites – occupying a strategic low-lying position overlooking Oldbury Pill (a tidal tributary 200m to the south) and situated at the periphery of a cluster of contemporary Iron Age defended settlements, such as Stokeleigh Camp and Clifton Downs Camp to the south and Abbey Camp the east. These, and many others, are poorly dated but thought to have been constructed in the Iron Age (Hillforts Atlas Project 2017). They tend to lie in key landscape locations overlooking navigable waterways and the wider landscape. The site is believed to have lain within the tribal boundary of the Dobunni, who succumbed to Roman rule by AD 70 (Cunliffe 2005). However, Oldbury Camp and many other hillforts in the area have never been scientifically dated, often relying on comparisons with similar earthworks to provide unverified chronologies.

2.1.3 Little is known about the site during the Roman and early medieval periods, and it is not until after the Norman conquest that historical sources provide an insight into the organization of the landscape. At the time of the Domesday Book in 1086, Oldbury was subsumed within the larger estate of Thornbury which fell within the old Anglo Saxon Hundred of Langley. This covered the parishes of Thornbury, Falfield, Oldbury-on-Severn, Rangeworthy and Rockhampton (Smith 1964, cited in Corcos 2013, 12). The village itself does not appear in documentary records until a century after, in 1185, when it is noted in Templar records recording Templar property, patrons and the management of their estates, county by county. Oldbury is recorded as *Aldeburhe*, taking its name from the presence of the fort: from the Old English *ealden byrig*, old fortified place. Other medieval references to Oldbury are few and far between, although it is referred to in a variety of documents under various spellings. The current place name of Oldbury-on-Severn appears to have been in use by the 17th century.

2.1.4 When the Templar Order was dissolved, the manor of Oldbury was granted to John Veal and then passed on to his son Robert in 1458. The Kemys family subsequently acquired the manor and by 1504 the manor with other lands became the passion of a William Tomson and by 1608 Sir James Harrington was lord of the manor. The tithings of Oldbury, in the parish of Thornbury, were consolidated into the Manor of Thornbury by an act passed in the reign of Charles II. Previously, the manor of Thornbury was in the hands of the De Clare family, Earls of Gloucester from the later 11th century until 1347. In 1646 the manor of Oldbury was settled by Anne Stafford and her son-in-law William, Viscount Stafford. William Stafford Howard sold the estates to his cousin, Thomas Howard, 8th Duke of Norfolk in 1727. Throughout the medieval period, Oldbury remained bound to Thornbury and it was not until 1863 that Oldbury achieved the formal status of an ecclesiastical parish in its own right (Corcos 2013, 12). Although documentary sources provide some important information about land ownership, they are not able to fully characterise the activities and lives of the village's inhabitants, which can only be achieved through careful analysis of the buried archaeological resource.

2.1.5 The place name most associated with Oldbury Camp – 'The Toot' – was first recorded on the OS early 1920s revision, but is not seen in previous documentary records. The name has an interesting meaning, derived from the Middle English *tote*, a look-out hill. However, as the name is not recorded in documentary sources before the 20th century, it has been suggested that it may in fact be later and not a genuinely early name (Corcos 2013, 14).

2.2 Summary of previous work

2.2.1 Previous investigations at the site include an unpublished excavation in the 1960s by secondary school children from Bristol, followed by a small-scale excavation in advance of the construction of a new bungalow at Vindolanda in 1978 (Iles 1980). Dating evidence from this investigation was inconclusive, recovering material from the Iron Age through to the post-medieval period. A continuity of use at the site has been argued for due to the recovery of Roman coins, with unsubstantiated claims of later Viking activity on the site (*Ibid*. 1980: 36 citing O'Neill 1974: 190).

2.2.2 More recent work, undertaken as part of planning requirements, include an evaluation at The Paddock House (Riley 2013) and watching brief at Camp Cottage (Rowe 2007), both located on Camp Road at the northeastern edge of the site. Neither excavation yielded much in terms of diagnostic material culture and only the excavations at Camp Cottage recorded the presence of archaeological features. In this case, bank material was recorded over a wide area at the location and was interpreted as indicating substantial movement of the material through deliberate levelling and natural erosion (Rowe 2007, 7). Further definition of the extent and survival of archaeology relating to the inner and outer ditch of the fort on its western side has also been facilitated through small-scale investigation resulting from planning requirements. This includes the identification of the banks and ditches forming the outer boundary at its southwestern extent (Erskine 1990a, 1990b) and evidence for the inner bank on the western side. The different investigations undertaken on and around the site and recorded in the South Gloucestershire HER are shown on Figure 3.

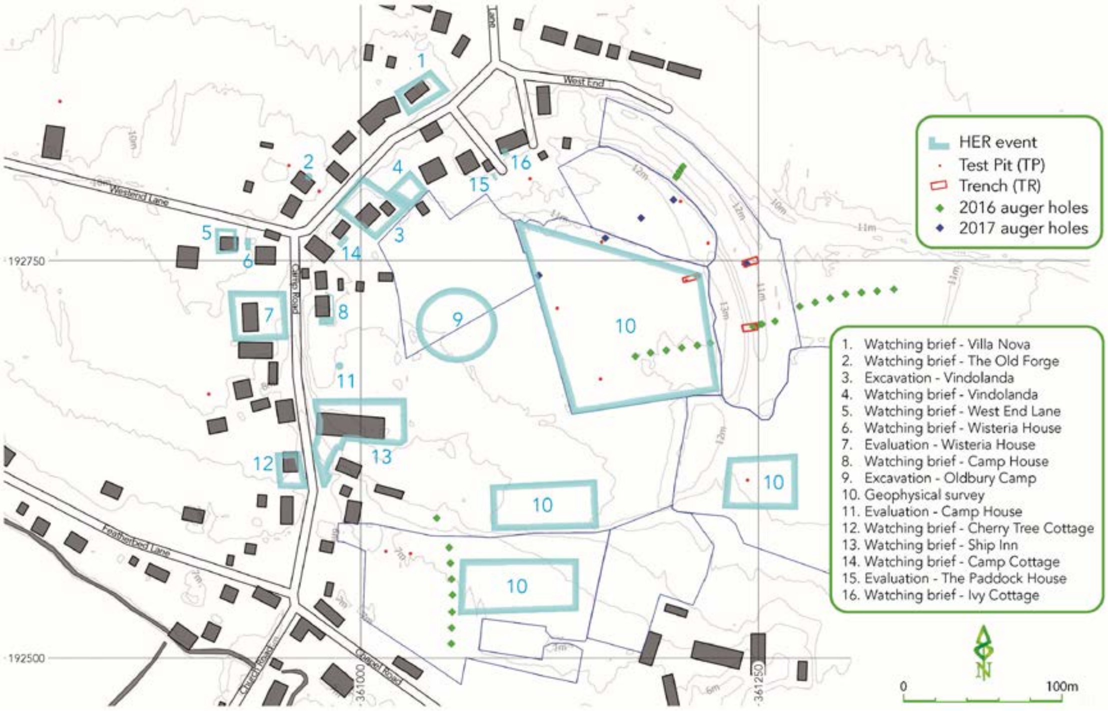

Figure 3: Historic Environment Record events

2.2.3 Previous archaeological work and documentary research have provided a basic understanding of the settlement from the Norman Conquest onwards, but crucially the earthworks remain poorly understood. Morphologically Oldbury Camp appears to be an Iron Age hillfort but, without any cultural material or scientific dating evidence, the site could just as easily have been constructed in the Neolithic. Limited evidence for activity before the Norman Conquest comes in the form of a few Iron Age and Roman pottery fragments recovered during previous investigations, though none from demonstrably secure archaeological contexts. A geophysical survey of the interior of the monument was undertaken in 2008 (Roberts 2008), but this and other archaeological works have yielded little to inform even a basic understanding of the chronology, use or function of the monument.

3 PROJECT AIMS AND OBJECTIVES

3.1 Background

3.1.1 The aims and objectives articulated below were defined in the Project Design for this stage of research (Forster *et al.* 2017). The project was designed in response to the Project Brief (Driscoll 2016) and informed by evaluation of the site using aerial survey and test-pitting (Wilkins *et al.* 2016), and auger survey (Tetlow 2017). This report represents the final stage of the project, outlined in Section 10 of the Project Design (Forster *et al.* 2017, RV5). The business case for this work has been designed in accordance with the fundamental principles of Historic England's Strategic framework for the Historic Environment Activities and Programmes (SHAPE).

3.2 Aims

3.2.1 The overarching aim of the project was to define and characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation, obtaining baseline data that will facilitate its future management, presentation and enjoyment. Three interrelated research themes were identified (Driscoll 2016, Section 4.2) aiming to understand the hillfort, the village, and the role that both played within the wider historic landscape environs. Following Driscoll (2016, Section 4.4, 4.6 and 4.8) the aims and objectives articulated below have underpinned the archaeological research undertaken.

3.2.2 Aim 1: Identify the physical extent and character of the Oldbury Camp heritage asset in its environs.

- Q1: Can the layout of the hillfort and any associated subsurface archaeology be determined by remote survey, auger survey and refined by targeted test pits?
- Q2: What are the topographic and geophysical anomalies visible within and around the enclosure (such as the platform or inner to the south), and is this evidence for anthropogenic activity?
- Q3: Can we identify any phasing in the topographic or remote sensing anomalies indicative of an extended period of use?

3.2.3 Aim 2: Understand the development of Oldbury Camp and place it within its multi-period landscape context.

- Q4: Can we corroborate chronological phasing for the Site, including the presence of earlier and later features and structures, as defined in Aim 1?
- Q5: What are the typical and atypical features of the hillfort and did this influence the functions and activities that took place?
- Q6: What is the landscape setting and character surrounding the hillfort, and how did this shape its location, design and development – and subsequently, how did this shape the development of the later village?

3.2.4 Aim 3: Understand the site's archaeological and palaeoenvironmental conditions.

- Q7: What is the current state of the archaeological and palaeoenvironmental material across the site?

- **Q8**: How well do deposits and artefacts survive, and how deeply are they buried?
- **Q9**: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about seasonal farming regimes, specialised food processing or industrial activities that may have taken place at the site?
- **Q10**: What is the range and spatial patterning of artefacts recovered from the hillfort, and can this inform our understanding of the seasonal use of the landscape and utilisation of wider resources?
- **Q11**: Can we increase our understanding of the local environment at Oldbury Camp and its wider environs (relating the intertidal zone to the uplands?)

3.2.5 Aim 4: Making recommendations, analysis and publication.

- **Q12**: What can an integrated synthesis of the results of this work with previous studies of contemporary regional sites tell us about the Site and its setting?
- **Q13**: What recommendations can be made to protect, conserve and enhance Oldbury Camp, in the light of the issues and opportunities identified under Aims 1 - 3?

3.3 Public engagement and impact

3.3.1 In addition to the archaeological research aims of the project, achieving public engagement and benefits for the local community have been key targets embedded within this project. As part of the overarching AFL project, providing opportunities for volunteers was an important component of our defined aims. Key objectives defined by the project (AFL 2016) included:

- Training and support of volunteers in archaeological excavation and recording.
- Engaging the local community through a public open day and social media updates.
- Involving local schools through visits to the site.

3.3.2 The project has exceeded these aims, ensuring maximum public benefit from the community excavation (see Section 7). The public programme included a series of lectures and lunchtime talks, open days with scheduled site tours, and a 'bring out your finds' session involving our professional team of experts. Local schools were able to get involved as well, with site visits being accompanied by a 'Character Trail' introducing some faces from the imagined past. The involvement of 59 individuals in the excavations as site volunteers was a great achievement with the project benefitting greatly from their commitment and passion. Our fantastic team of local community members and participants from further afield (including New Zealand) contributed over 150 days to the project, helping to excavate, recover and record the archaeology.

4 METHODOLOGY

4.1 Project model

4.1.1 The archaeological fieldwork was carried out in accordance with the methodology defined in the Project Design (Forster *et al.* 2017, Section 15). All work was undertaken in conjunction with best practice, national guidelines and published standards (*ibid*, Section 6; CIfA 2014). A summary of methodologies is presented below, following detailed descriptions in the Project Design linking specific techniques to aims and objectives (Forster *et al.* 2017).

4.2 Excavation methodology

4.2.1 The excavation methodology was determined following the success of the multi-disciplinary remote sensing and test pitting weekend in 2016 (Wilkins *et* al. 2016), the results of which are displayed below. Aerial photogrammetric survey has enabled an orthorectified image (Figure 4) and Digital Surface Model (DSM) (Figure 5) of part of Oldbury Camp to be produced. Geophysical resistivity and magnetometry surveys (Figure 6 and Figure 7) were undertaken by the AFL project team before excavation to map sub-surface anomalies and inform the position of the excavation areas (Lambie and Lennox 2017).

Figure 4: Orthorectified aerial image

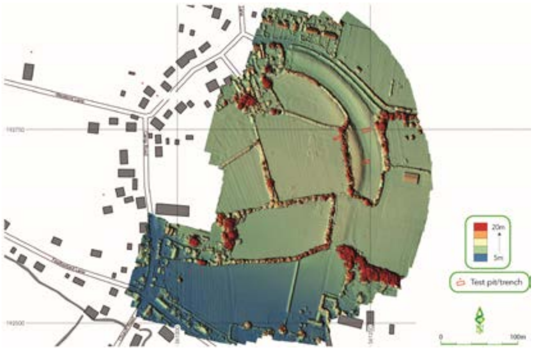

Figure 5: Archaeological investigations overlying a Digital Surface Model, generated from aerial photogrammetry

Figure 6: Archaeological test pits and trenches in relation to resistivity survey

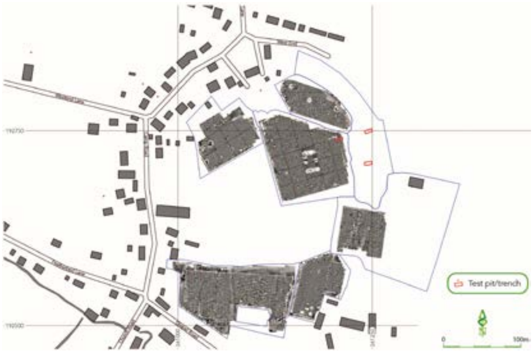

Figure 7: Archaeological test pits and trenches in relation to magnetometry survey

4.2.2 Following the results of the fieldwork in 2016, it was deemed prudent to implement a scheme of geoarchaeological survey across the site (Tetlow 2017) so that a deposit model could be generated (Forster *et al.* 2017, Figure 7). The outcome of this survey, combined with the results of those outlined above, were used to inform the location of the excavation areas and to predict the nature and depth of deposits.

4.2.3 Excavation took place in 2017 between 18 June and 4 July 2017 to address the research questions associated with Aims 1 – 3. This entailed a programme of targeted interventions designed to 'ground-truth' the results of remote sensing and metric survey, identifying and investigating any archaeological features encountered, and obtaining appropriate samples for archaeological, artefactual and palaeoenvironmental assessment (Figure 8).

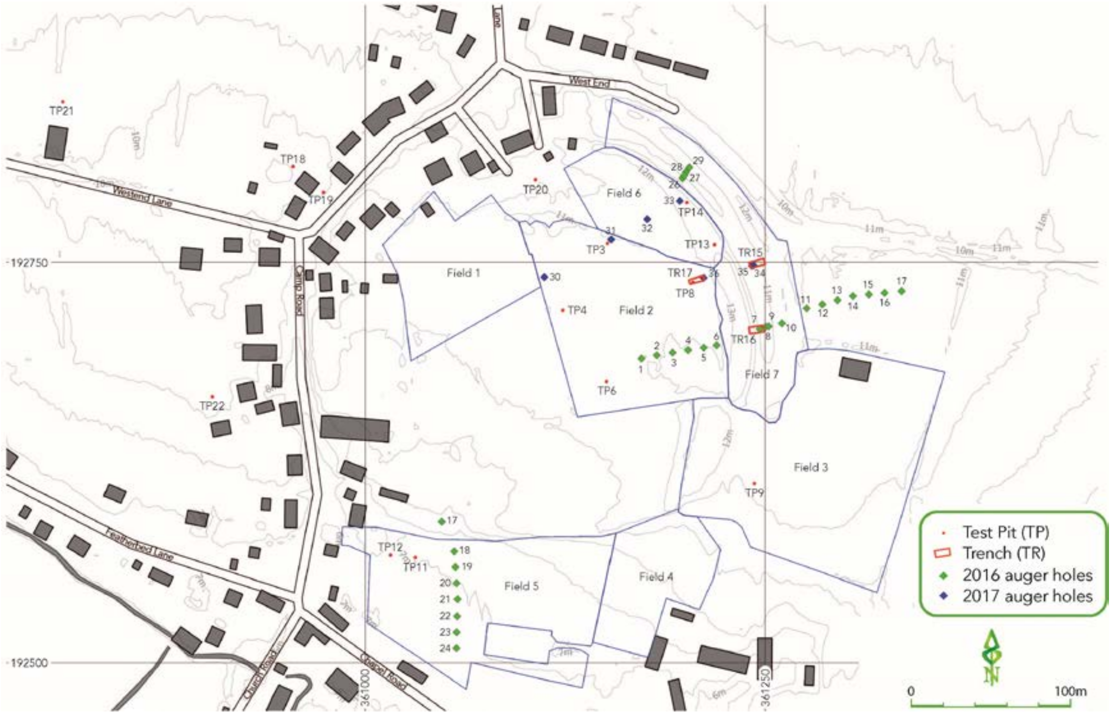

Figure 8: Location of all archaeological investigations

4.2.4 Four key archaeological zones of interest were identified (Figure 9):

- Central area: One 10m x 3m trench (Trench 17) excavated inside the inner side of the bank to investigate deposits encountered during the auger survey (Figure 3, auger hole 6), to identify the remnants of bank and to characterise the nature and state of preservation of soils within the monument. Three auger holes (AH30 – 32) were positioned across Fields 2 and 6 designed to examine the development of soils within the earthworks, as was one 1m x 1m test pit in the back garden of No.2 Camp Cottages (Test Pit 20).
- Banks and ditch: Two 10m x 4m trenches (Trenches 15 and 16) excavated across the inside of the outer bank and the outside of the inner bank to investigate the banks and ditch, and to identify buried soil deposits from below the banks thought to represent the original ground level immediately prior to construction of the earthworks. One 1m x 1m test pit (Test Pit 22) was positioned on the projected line of the outer bank in the back garden of Rose Cottage, west of Camp Road, and a single auger hole (AH33) was sampled in the northeast section of the inner bank.
- The Old Forge: Two 1m x 1m test pits (Test Pits 18 and 19) excavated in the front and back gardens of The Old Forge. Although located on the line of the banks

and ditch, their purpose was more to define and characterise activity within the village itself.

- **Outside the monument**: One 1m x 1m test pit (Test Pit 21) was opened in the back garden of High Chimneys, north of Westend Lane, outside the monument on the western side.

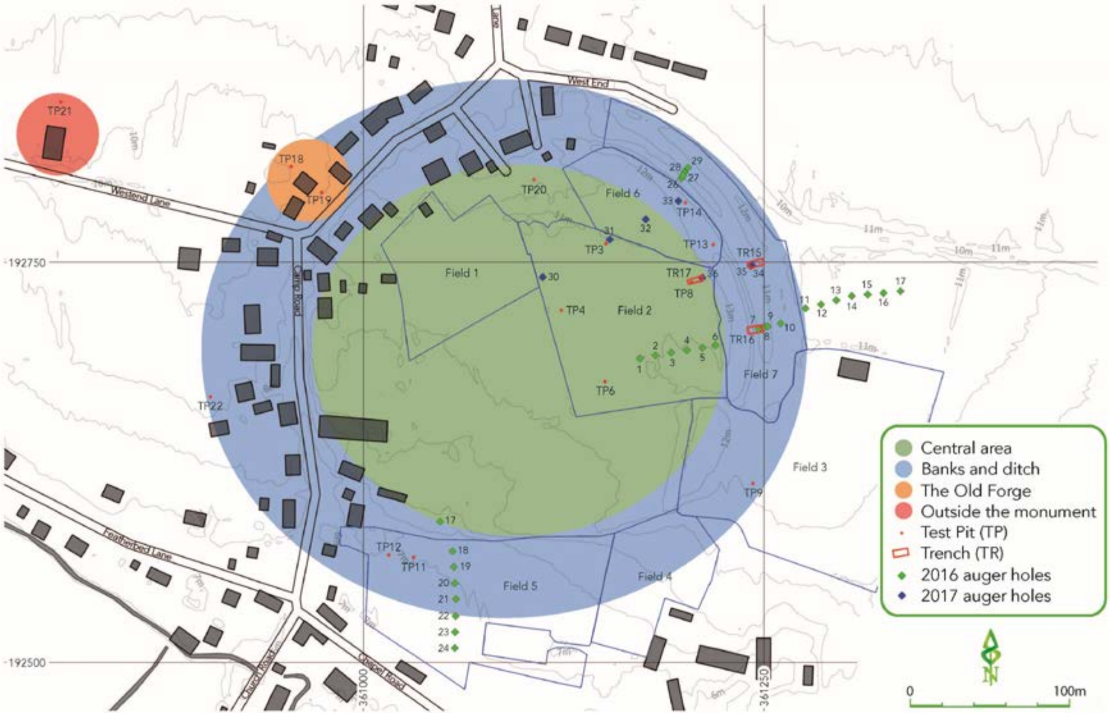

Figure 9: Archaeological zones of interest

4.2.5 All areas were marked out on the ground using a GPS prior to the commencement of work, and initially scanned for surface finds with a metal detector prior to excavation. Machine excavation of the three trenches was carried out using a JCB 3CX fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, under the constant supervision of an experienced archaeologist. All test pits were excavated by hand down to the first archaeological horizon.

4.2.6 Trenches and test pits were subsequently hand-cleaned, planned and photographed prior to hand-excavation. Any archaeological features and deposits exposed were hand cleaned and excavated to determine their nature, character and date. Carefully chosen cross-sections were then excavated through features to enable sufficient information about form, development, date and stratigraphic relationships to be recorded. Excavated features were sampled where required and wet-sieved off-site using a standard archaeological floatation device.

4.2.7 A complete drawn record of the archaeological trenches comprises both plans and sections, drawn to appropriate scales and annotated with coordinates and AOD heights. A single context recording system was used to record the deposits, and a full list of all records is presented in Appendix A. Layers and fills are recorded '(1001)'. The cut of the feature is shown '[1001]'. Each number has been attributed to a specific trench with the primary number(s) relating to specific trenches (i.e. Trench 1, 1001+, Trench 2, 2001+). Features were also specified in a similar manner, pre-fixed with the letter F (i.e. Trench 1, F101+, Trench 11, F1101+).

4.2.8 All interventions were surveyed using a GPS tied into the Ordnance Survey grid. All recording was undertaken using the DigVentures Digital Dig Team recording system. Digital Dig Team is DigVentures' bespoke, cloud-based, open data recording platform, designed to enable researchers to publish data directly from the field using any web-enabled device (such as a smartphone or tablet) into a live relational database. Once recorded, the born-digital archive is instantly accessible via open-access on a dedicated website, and published to social profiles of all project participants (community, professional and specialist). Links to all individual trench, feature and context records are provided in Appendix A, from where all associated finds, samples, plans, sections, photographic records and 3D models can also be explored.

4.2.9 As part of the 2017 excavation season, a targeted auger survey was undertaken along a short transect through Fields 2 and 6 in order to further investigate the nature of the cultivated horizons recorded in the previous auger survey and 2016 test pit excavations. The transect was situated to run parallel to Test Pit 3 and 4 within Field 2, and extend into Field 6 in the direction of the rampart, and Test Pit 14. Due to unforeseen circumstances the survey was limited to three auger holes.

4.2.10 Optically Stimulated Luminescence (OSL) samples were taken during excavation of Trenches 15 and 16 to establish dating profiles through the inner bank and ditch. Sections were selected and cleared back by at least 0.15m under temporary dark cover, prior to collection of individual bulk samples in plastic petri-dishes. Luminescence measurements were made in the field using portable OSL equipment, using an interleaved sequence of system dark count (background), IRSL and OSL. Samples for dating were then taken from deposits within the bank and ditch in order to assign a relative chronology to their construction. For a detailed account of the methodology used, see Appendix G and Appendix H.

4.3 Health and safety

4.3.1 All work was carried out in accordance with DigVentures' Health and Safety Policy and in line with standards defined in *The Health and Safety at Work etc. Act* 1974 and *The Management of Health and Safety Regulations* 1999, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) manual *Health and Safety in Field Archaeology* (1996).

5 EXCAVATION RESULTS

Chris Casswell

With specialist contributions by Paul Blinkhorn (pottery), Josh Hogue (flint), Matilda Holmes (faunal remains), Rosalind McKenna (palaeoenvironmental), Joanne McKenzie (geoarchaeology) and Tim Kinnaird (OSL).

All digital context and feature records have been archived on the Digital Dig Team system and can be reviewed here at https://digventures.com/oldbury-camp and by clicking on the links in the text.

5.1 Introduction

5.1.1 Work undertaken during the remote sensing phase of fieldwork, including the excavation of nine test pits, established the precise layout of the hillfort (Aim 1, Q1), and the nature and depth of archaeological remains on the site, enabling a full characterisation of buried deposits prior to full excavation (Q2 and Q3). A summary of these results is included in the description below and is reported in full in an interim assessment report (Wilkins *et al.* 2016) and geoarchaeological assessment (Tetlow 2017). Fieldwork undertaken in 2016 provided the detail needed to plan the larger phase of excavation, informing the location of archaeological trenches, further test-pits and additional auger survey, as outlined in the Project Design (Forster *et al.* 2017).

5.1.2 In total, three trenches, five test pits and four auger holes were investigated during the excavation stage of fieldwork. The principle purpose of these excavations was to understand the development of Oldbury Camp (Aim 2, Q4 and Q5) and place the monument within its multi-period landscape context (Q6). In addition, the research methodology employed was designed to establish the nature of preservation of archaeological and palaeoenvironmental material across the site (Aim 3, Q7, Q8) and to provide an understanding of the use of the landscape and its wider environs (Q9, Q10 and Q11). Each archaeological intervention was designed to address a specific research objective, discussed with the excavation results below. Figure 8 shows the overall location of each targeted area, and Figures 10 – 17 provide illustration of individual trenches containing archaeological features.

5.1.3 A comprehensive account of the auger survey undertaken during the community excavation has been provided by McKenzie (Appendix E). This report includes a synthesis of data from the previous survey and observations made from soil micromorphological samples and the OSL field-based profiling and sampling. Reports on the OSL investigations including all data recovered can be found in Appendix G and Appendix H (Kinnaird). Data from both these reports, as well as that from finds and environmental analysis, is incorporated into the following description of the results.

5.1.4 Detailed context and feature descriptions are included in Appendix A, organised by trench number. Full technical trench descriptions are available online via the site Digital Dig Team (https://digventures.com/oldbury-camp), where all the site records can be accessed. Additionally, where trenches and small finds are mentioned for the first time in this section, hyperlinks have been added to take the reader directly to the record on Digital Dig Team.

5.2 Central area

5.2.1 The interior of the monument was initially investigated in November 2016 by four test pits (Test Pits 3, 4, 6 and 8) and six auger holes (AH1 – 6). The pottery recovered was suggestive of a manuring scatter dating largely to the medieval period, but extending into the post-medieval. A single broken flint flake was also found, indicating a degree of prehistoric activity in the area, likely disturbed from its original context. This preliminary work was supplemented in 2017 by the addition of a trench (Trench 17) in the northeast part of Field 2, and by three further auger holes (AH30 – 32) across Fields 2 and 6, to enhance our understanding of the later use of Oldbury Camp.

5.2.2 Soil profiles from the auger survey revealed a rich dark brown ploughsoil layer directly beneath the topsoil. This layer was found to be different thicknesses in each of the holes: 0.45m in AH30, 0.28m in AH31 and over 1m in AH32. This variation reflects the level of cultivation invested in different plots of land within the monument. A relatively thin ploughsoil recorded in AH31 was likely due to its position next to an existing field boundary where ploughing would have been less intensive. This contrasts with AH32 where soil was considerably thicker and darker with small charcoal inclusions, indicative of deliberate depth amendment for agriculture.

5.2.3 These soil profiles closely match those found when Trench 17 was excavated (Figure 10). Ploughsoil was identified following the removal of topsoil, as was a large pit F1701, at the eastern end of the trench. The pit had been deliberately created following the formation of ploughsoil and contained the poorly preserved, fully articulated remains of a cow in its base. Artefact recovery was very limited but included a post medieval copper alloy die-cast stud SF14 found in the lower ploughsoil and fragments from a possible perforated strap end of similar date from the pit fill. These relatively late finds were recovered from deposits stratigraphically pre-dating the excavation of the pit and confirm that the cow burial was recent.

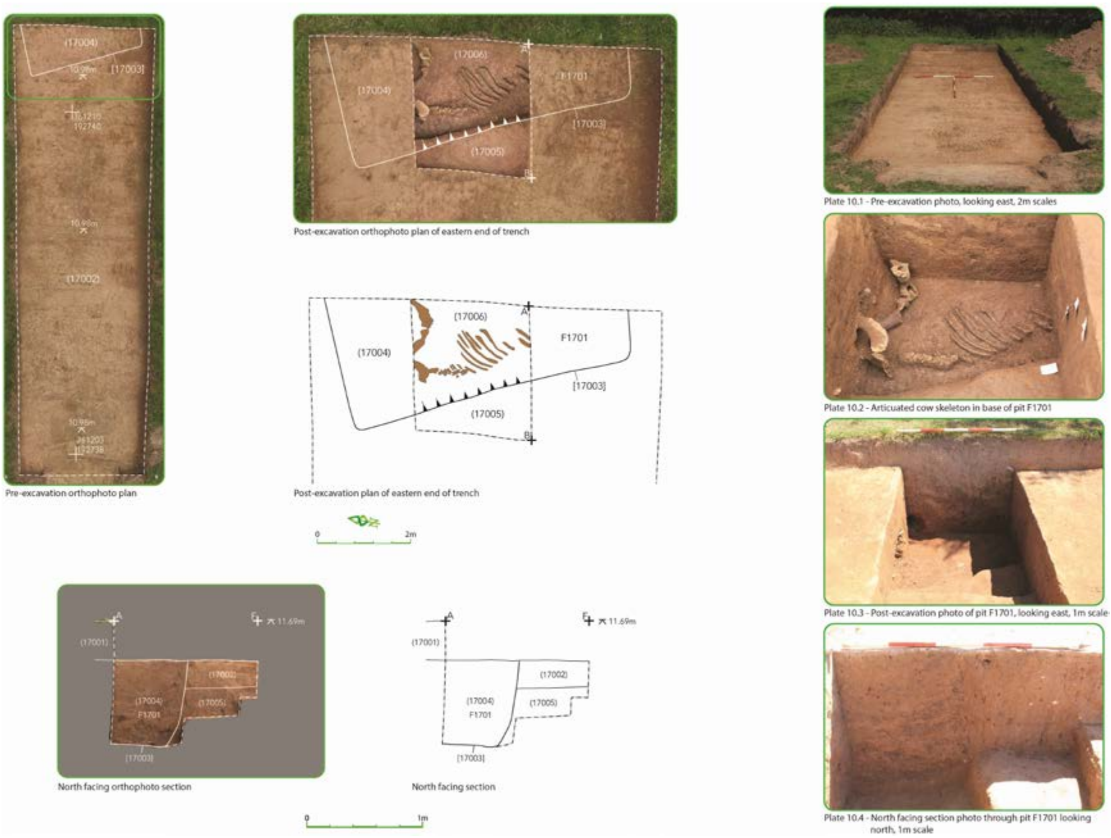

Figure 10: Trench 17 excavation results

5.2.4 The thickness of the ploughsoil in Trench 17 had accumulated to 0.75m suggesting that Field 2 had been cultivated well into the post-medieval period, although not to quite the same depth as in Field 6.

5.2.5 One test pit (Test Pit 20) was opened in the back garden of No.2 Camp Cottages, in the northern part of the central area of the monument (Figure 11). Clay natural was found in the base of the test pit and was overlain by a 0.4m thick layer of subsoil. This was sealed by more recent garden soil layers that produced a mixed finds assemblage dating to between the medieval period and the present day. The presence of the earlier pottery (Ham Green Ware, Bristol Redcliffe Ware) may suggest that the subsoil is a buried ploughsoil recorded elsewhere across the central area. Later pottery found includes 17th – 18th century Bristol-type Slipware and Manganese Mottled Ware, as well at white earthenwares, which presumably relate to the settlement development in this area.

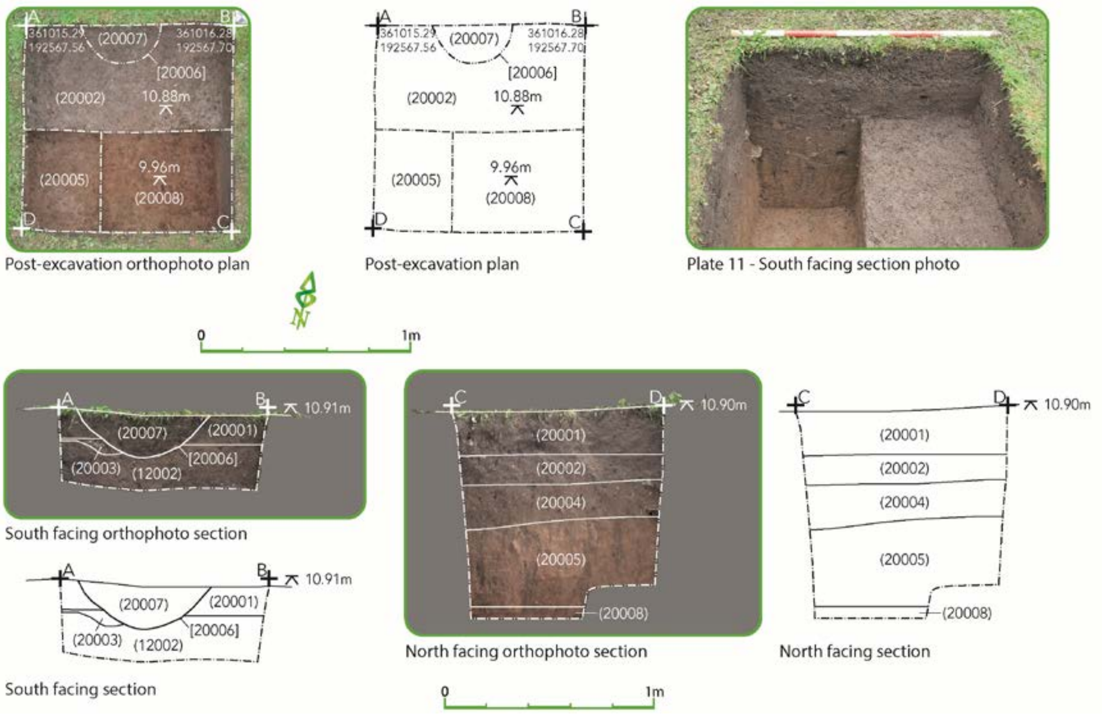

Figure 11: Test Pit 20 excavation results

5.3 Banks and ditch

5.3.1 The line of banks and ditch was investigated in 2016 through the excavation of five test pits (Test Pits 9, 11, 12, 13 and 14) in Fields 3, 5 and 6, and eight auger holes (AH7 – 10 and AH26 – 29) in Field 7. The top of the internal bank was found in both test pits beneath the topsoil but no diagnostic material culture was found to help date it. Interestingly, on the top of the bank there was no evidence to suggest that a ploughsoil had formed. Auger holes opened across the ditch provided very similar soil profiles that appeared to suggest a relatively shallow ploughsoil horizon had formed beneath the topsoil and directly above the natural geology. If this were the case then the ditch would have been very shallow and could not possibly account for the size of the internal bank. This hypothesis has been revised in light of the results of Trenches 15 and 16 (see Section 5.3.4).

5.3.2 This initial work to understand the earthworks gave an insight into the likely depths deposits would be encountered at; however, larger, more extensive excavation was required to fully characterize these features. In 2017 two trenches (Trenches 15 and 16) and three auger holes

(AH33 – 35) were excavated across both banks and ditch, and a single test pit (Test Pit 22) on the projected line of the earthworks on the far western side of the monument.

5.3.3 Two trenches were located across the outer bank, the inner banks, and the ditch between them, in Field 7: Trench 15 targeted the ditch and the inside of the outer bank (Figure 12), and Trench 16 the ditch and the outside of the inner bank (Figure 13). Both trenches were positioned so that their long-axis followed projected lines radiating from the centre of the monument, thereby providing a full profile of the earthworks.

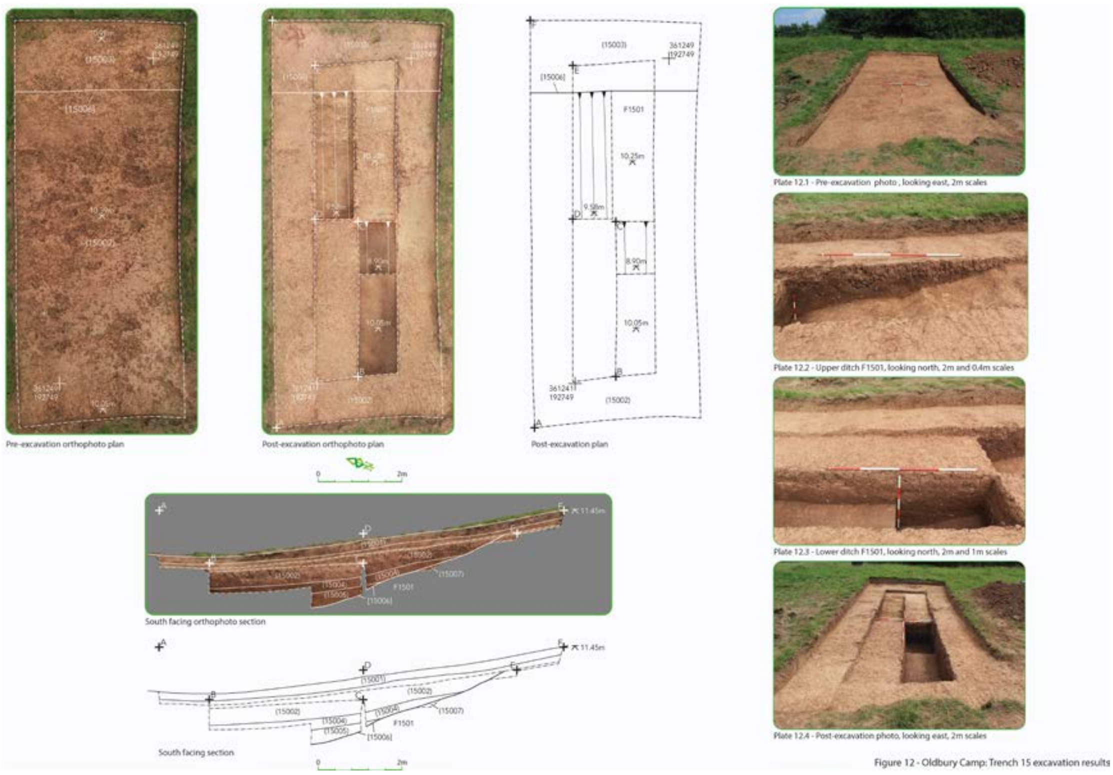

Figure 12: Trench 15 excavation results

5.3.4 The outside edge of the ditch was found in Trench 15 F1501 and the inside edge in Trench 16 F1601; it followed the same line as the topographic depression left between the bank earthworks. In both trenches the ditch was filled by compact red clay deposits similar to the underlying geology, which may explain why during the initial auger survey it was interpreted this way. A small group of seven sherds of abraded Iron Age pottery was found in the upper fill of the ditch in Trench 15, as was a fairly large assemblage of medieval pottery and four residual sherds from Romano-British vessels (see Blinkhorn, Appendix C). Earlier fills of the same ditch are dated through the medieval pottery found within them and small fragments from a buckle SF32, indicating that the Iron Age material had been redeposited from the central area of the monument by medieval ploughing, or through natural erosion, no later than the 14th century. Prehistoric flint flakes SF3 and SF10 were also found in the ditch, displaced from their original depositional context, suggesting Neolithic or Bronze Age activity in the area (see Hogue, Appendix D). Just three small sherds of pottery dating to the 13th century were found in the ditch in Trench 16.

5.3.5 It was not possible to hand excavate down to the base of the ditch in Trench 15 because it was unsafe to work any deeper within the confines of the trench, but a hand-auger survey (AH34 and 35) was undertaken to try and find it. A deposit of hard red clay was encountered at the western end of the trench 2.55m below the existing ground level. This was the greatest depth at which the auger was refused and it is possible that the deposit encountered represents bank slump into the base, which would also cause the auger to be refused. In Trench 16 the inside edge of the ditch was explored, but the base was not found.

5.3.6 A layer of natural red clay was found at the eastern end of Trench 15 where the outer bank was thought to have been situated. The ditch was cut into this layer and it is likely that the bank material at this location had been completely removed through ploughing and/or erosion. This was not the case for the internal bank which survives to a height of 1.5m above the original ground surface, and which was investigated fully in Trench 16.

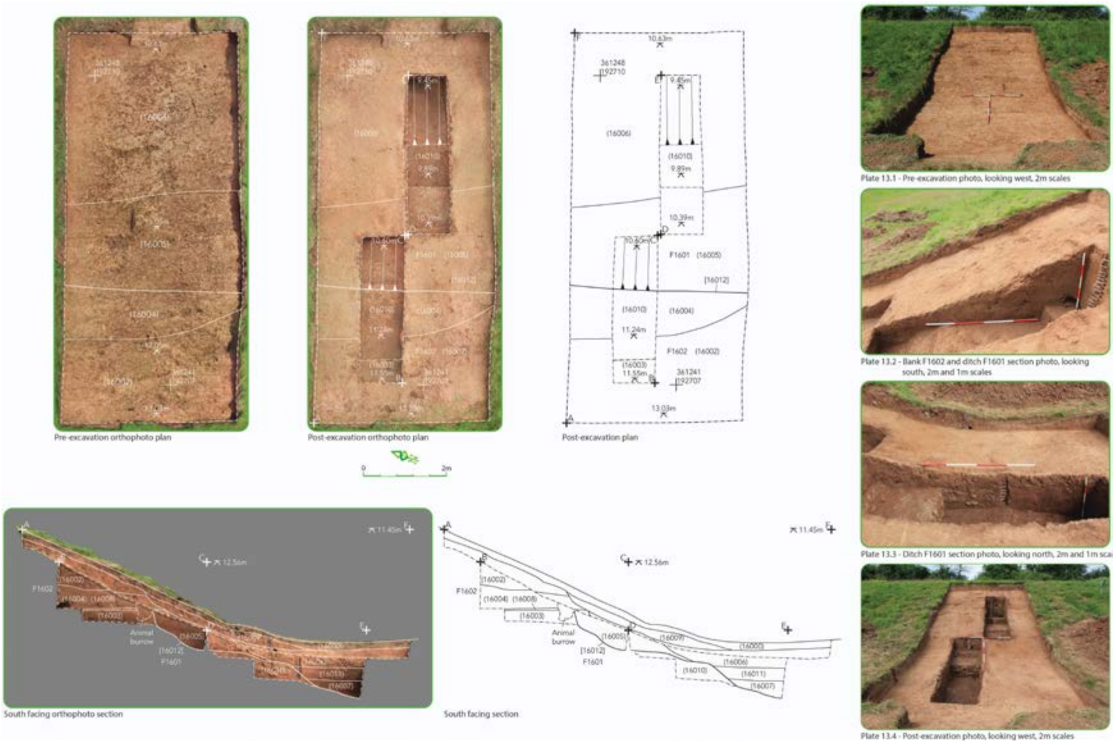

Figure 13: Trench 16 excavation results

5.3.7 The monument's internal bank F1602 was investigated at the western end of Trench 16; this location was specifically targeted because of its potential for providing the maximum amount of information possible about the construction of the bank. It had been constructed through an initial deposit of brown sand and was then capped with a 0.85m thick layer of redeposited red clay. The bank lay on top of a thin relict turf-line which overlay a 0.3m thick buried soil, from which one prehistoric flint fragment SF25 was recovered. It was not possible to date the bank itself from finds – because there were none – so a strategy was devised to systematically sample a profile of the stratigraphic sequence for OSL profiling and dating (see Kinnaird, Appendix G). In brief, the OSL signals exploited in dating are reset by exposure to daylight; such that, stratigraphic variations in luminescence within soil / sediment stratigraphies record different depositional circumstances or initial sedimentary characteristics.

5.3.8 The sediment stratigraphies revealed in Trench 16 were appraised using a combination of portable OSL equipment and *in-situ* dosimetry measurements; 54 bulk sediment samples were appraised across four profiles, which targeted the different features of the trench. These results were used to generate luminescence-depth profiles, which were interpreted relative to the sediment stratigraphies and archaeology. Initial observations were that: the bank consisted of c. 0.65-0.75m of re-deposited (potentially placed) clays and sands (16002) and (16004); that these deposits overlay a buried palaeosurface (16008) at c. 0.80-0.90 cm depth (sloping a slight angle into the ditch), and; that the substrate soils beneath this surface (16003) were potentially intact and surviving from before construction of the rampart bank. This information was used to guide the positioning of the sediment samples taken for OSL dating (see Kinnaird, Appendix H). The dating samples were positioned either side of the buried soil and SAM13 and SAM14 to provide both *terminus post quem* (TPQ) and *terminus ante quem* (TAQ) for the age of the old land surface, and a constraint on the age of the buried soil SAM12 (Appendix figure 6). A third sample SAM11 was taken at 0.51m depth in the sequence, at the top of the re-deposited bank deposits and at the inflection in luminescence net signal intensities observed in the corresponding field profile. This latter sample was taken to elude on the formation / depositional history of the bank.

5.3.9 The construction of the rampart bank (in the position of this trench) is dated to around the mid 1st century BC (10BC ± 90, CERSA81 SAM13 & 60BC ± 70, CERSA82 SAM14). The samples collected from the overlying bank deposits enclose mixed age materials, and are characterised by broad equivalent dose distributions with both low and high dose outliers (see Appendix H for further details). The aliquots which tail to a lower apparent dose, would correspond given the environmental dose rates to some activity on the site in the 2nd-3rd centuries BC. The sediment ages obtained for these deposits are substantially older. These sediments were re-deposited without their luminescence signals being reset i.e. limited exposure to daylight, implying that the bank was constructed rapidly.

5.3.10 Samples were also taken from buried soils and lower bank material to examine the soil micromorphology. This detailed assessment of the buried soil sequence also provides further context and validation for the OSL stratigraphic study. A key observation is the clear, sharp boundary, marked by the rich orange zone of iron accumulation, between the base of bank and the buried soil sequence below it. This indicates rapid burial of the ground surface by the bank, and it is possible that the accumulation of iron at this point in the sequence is at least partly attributable to compaction. By contrast, a range of characteristics of the buried soil sequence denote gradual formation and a potential number of phases of development of the sequence – rudimentary lensing and lamination, a leached lower layer, and individual episodes of iron accumulation seen at intervals throughout the sequence. This accords well with the likely comprehensive re-setting of the buried soil phase indicated by the OSL sediment profiling. Through careful excavation, sampling and analysis of Trenches 15 and 16 it is now possible to say for the first time that Oldbury Camp is a later Iron Age hillfort.

5.3.11 In addition to the two trenches investigated on the extant earthworks, Test Pit 22 was excavated in the back garden of Rose Cottage, west of Camp Road (Figure 14). This examined the extent to which bank deposits survive within the village. Unfortunately, no earthworks were found: a natural clay layer was found directly beneath the topsoil and accumulated garden soil, and no evidence was found for a continuation of the earthworks in this location. Predominantly modern finds were recorded from these layers, as were two fragments of a post-medieval pony shoe. Although no remains of the earthworks were found in Test Pit 22, the results do strongly indicate that the development of the village in post-medieval and early modern times has come at the expense of the survival of the hillfort.

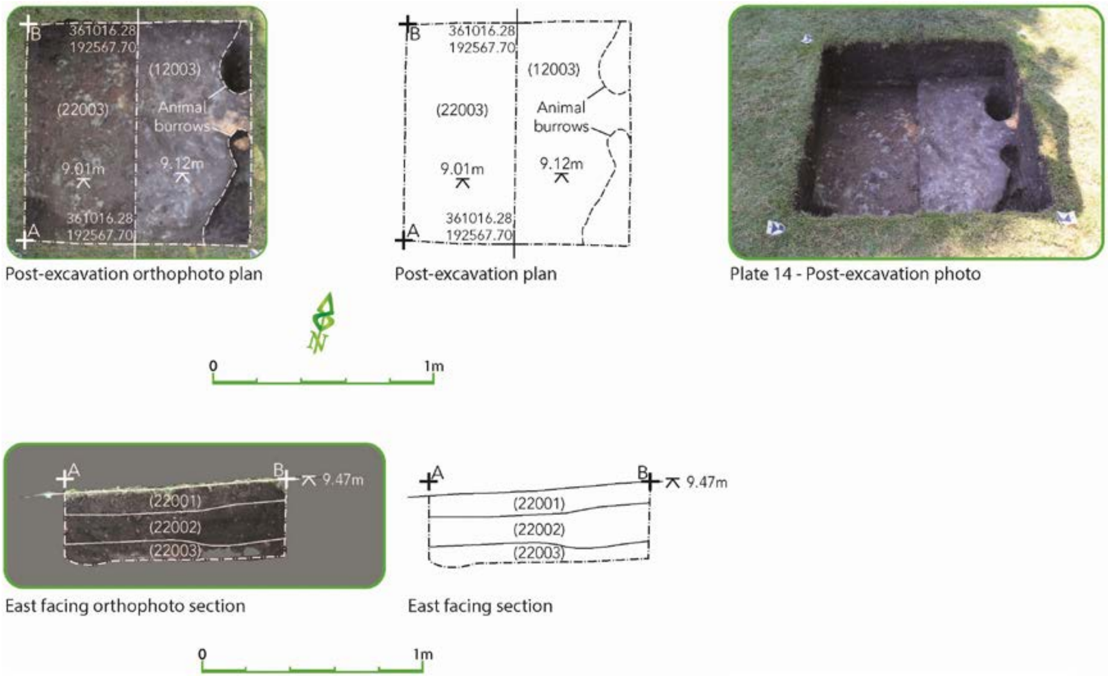

Figure 14: Test Pit 22 excavation results

5.4 The Old Forge

5.4.1 Two test pits (Test Pit 18, Figure 15; Test Pit 19, Figure 16) were opened along the projected line of the earthworks in the back and front gardens of The Old Forge on Camp Road. Their purpose was twofold: to establish whether the earthworks of the monument still survive, and to characterise the nature of settlement activity within the village itself (Aim 2).

5.4.2 Below the topsoil, in the upper part of both test pits, were successive layers of modern garden soil. A variety of finds were recovered from these layers, including numerous sherds of post-medieval pottery and many small fragments of coal, slag and iron. The high number and variety of pottery types present reflects the development of the settlement during the 17th and 18th centuries, and the presence of fuel and fuel waste a reminder that the site had in a previous life been used as a forge. Over half the number of finds recovered from the whole project came from these two test pits.

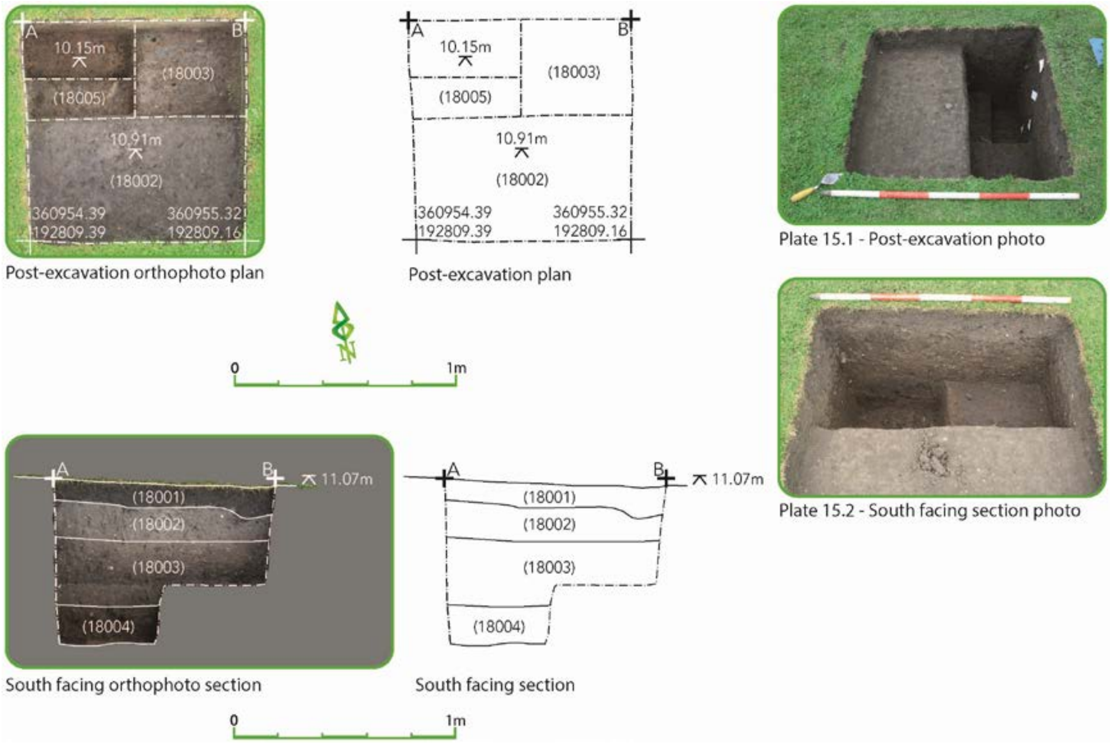

Figure 15: Test Pit 18 excavation results

5.4.3 Towards the base of Test Pit 18 were two darker layers that were very similar to the buried ploughsoil found in the central area of the monument. The later of the two layers produced seven sherds of medieval pottery, with one sherd of Malvernian Ware and one Wanstrow-type Earthenware sherd dating its formation to approximately the 16th century. Below this, the layer at the bottom of the Test Pit was found to contain five sherds of pottery dating to the late 12th century; these include a Saxo-Norman Limestone Ware, two Ham Green Wares and a piece of Minety-type Ware.

5.4.4 A cobbled surface was found beneath the garden soils in Test Pit 19. It consisted of tightly packed rounded cobbles within a brown clay soil matrix, from which ten sherds of pottery were recovered. Much of the pottery dates to approximately the 16th century, possibly dating its construction and use, making it broadly contemporary with the buried ploughsoil from Test Pit 18; pottery types present include Malvernian Ware, Cistercian Ware and Wanstrow-type Earthenware (see Blinkhorn, Appendix C). In addition to these sherds were two very small, abraded sherds of 19th – 20th century white earthenwares that probably represent the final use of the surface. The 1st edition Ordnance Survey map of the village shows Camp Road considerably wider than it is at present, extending further to the north. The stone surface identified may be the road, although it seems more likely that it was a yard surface serving the forge and was contemporary with an earlier form of the road. A single sherd of 11th century Saxo-Norman Limestone Ware pottery was found in the layer between the surface and the clay geology, which may be the remains of a truncated medieval ploughsoil deposit similar to that found in Test Pit 18, levelled for the construction of the stone surface.

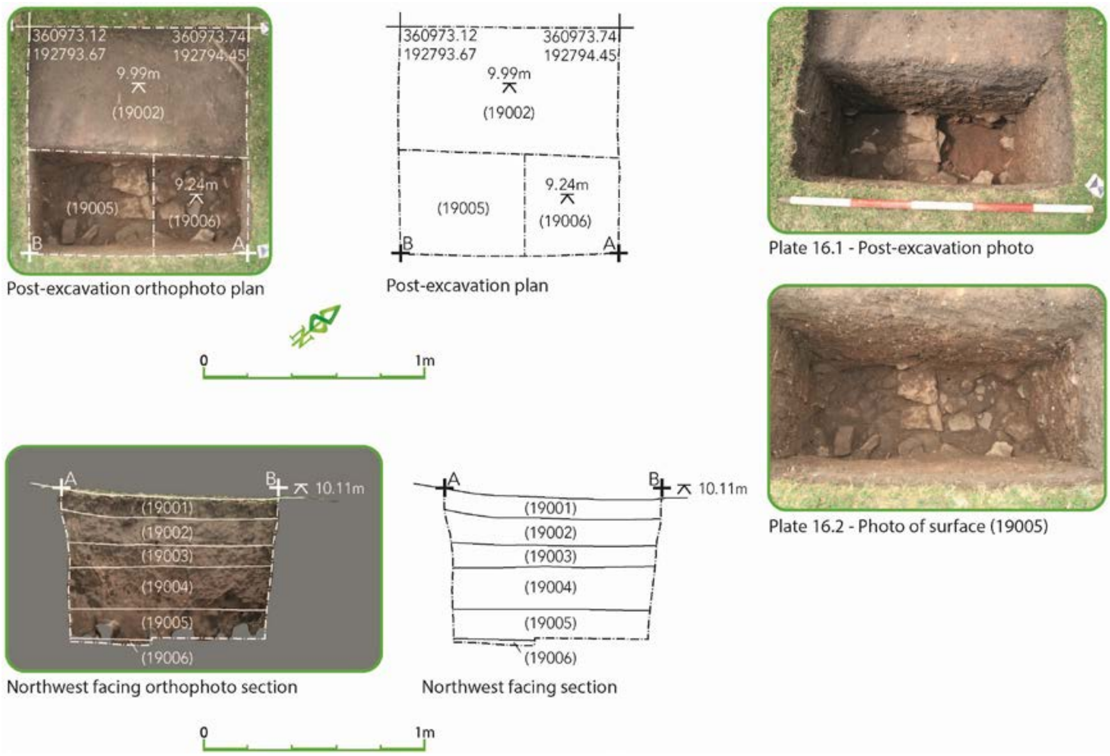

Figure 16: Test Pit 19 excavation results

5.5 Outside the monument

5.5.1 One test pit (Test Pit 21) was investigated outside the footprint of the monument in the back garden of High Chimneys, Westend Lane to the west of the village and at least 100m away from the projected edge of the outer bank (Figure 17). No features were found in the test pit and the layers recorded were very different to those encountered in any of the other excavation areas. Topsoil here overlay a relatively modern ploughsoil dated by the presence of modern pottery and building material. Below the topsoil two thin, light silty sand layers, typical for a small-scale 'plot' or 'garden' cultivation. A single prehistoric flint flake SF15 was also found, probably the result of knapping in the near vicinity during the Neolithic or Bronze Age.

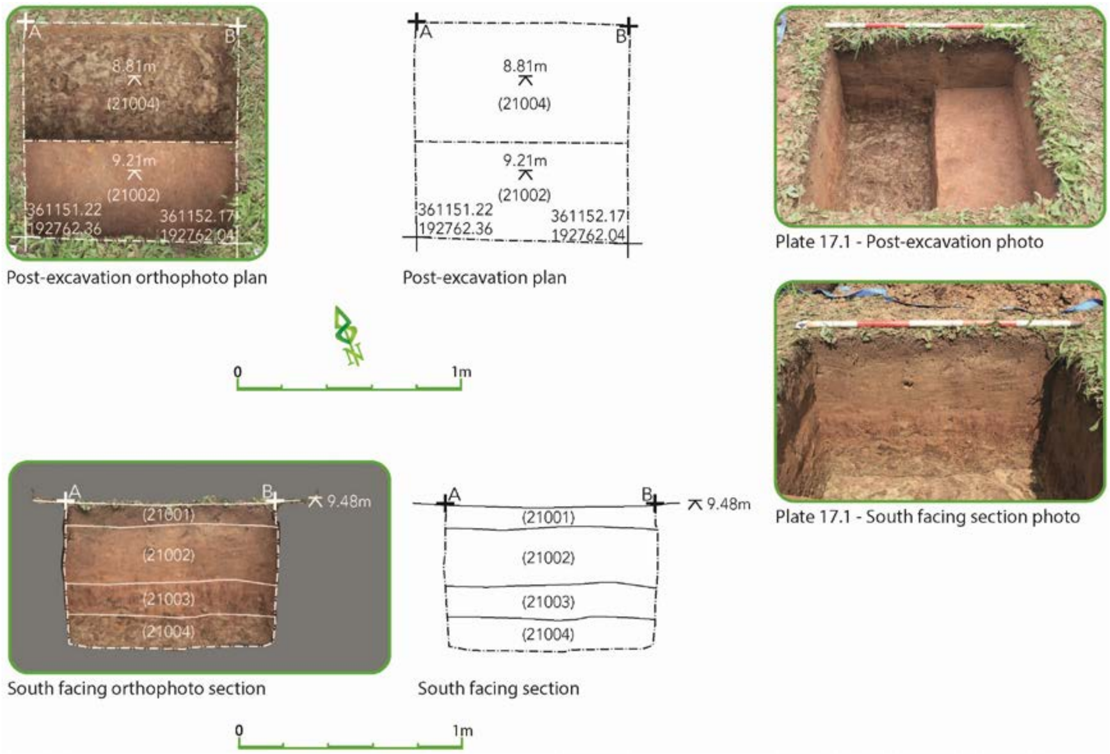

Figure 17: Test Pit 21 excavation results

6 ARTEFACTS AND ECOFACTS

Manda Forster

With specialist contributions by Paul Blinkhorn (pottery), Josh Hogue (flint), Matilda Holmes (faunal remains), Rosalind McKenna (palaeoenvironmental) and Joanne McKenzie (geoarchaeology).

6.1 Finds summary

6.1.1 The recovery of finds from the excavations at Oldbury Camp provide some insight into the chronological framework (Aim 2, Q4) as well as providing a better understanding of the site's archaeological conditions (Aim 3, Q7 and Q8). The spatial patterning of the finds can provide an indication of the use of the monument (Aim 3, Q10) and contribute to a greater understanding of its wider context (Aim 4).

6.1.2 The excavations at Oldbury Camp from both 2016 and 2017 yielded a small assemblage of finds including pottery, CBM, clay pipe, slag, flint, glass and metal (Table 1, and see Appendices B – J). The most numerous finds were pottery fragments, and the seemingly high numbers of slag, CBM and 'other' mainly relate to two test pits excavated at the site of the Old Forge blacksmiths workshop in the village. The test pits and trenches located within and near to the fort itself recorded small numbers of finds as well as a limited range of materials. For example, Test Pit 4 (Field 2) recovered a single sherd of Minety-type Ware, and Test Pit 14 (Field 6), a single fragment of brick. The quantity and range of finds recovered gives a useful indication of the presence or absence of domestic deposits on and around the site. Unsurprisingly, all the garden test pits from 2017 (with one exception, Test Pit 21) had a far greater range and number of finds than those from within the monument. The site of the Old Forge (Test Pits 18 and 19) provided the most variety, with many small fragments of coal, slag and iron added to the usual spread of ceramics.

6.1.3 The earliest find recorded was a single utilised flake most likely to have been in use during the later Neolithic (see Hogue, Appendix D) and certainly not recovered from an early context. As with much of the material recorded, the find may well have been imported onto the site as part of the enrichment of the soils for agriculture. Although the excavation failed to record any in-situ Iron Age deposits, a few prehistoric pottery fragments (nine sherds, 76g) did appear in the assemblage suggesting Iron Age activity (see Blinkhorn, Appendix C). These included fairly typical fabric types for the region; a handful of Malvernian Ware (eg SF6), Oolitic Limestone Ware (eg SF8) and sand-tempered middle to late Iron age sherds, all dating to within the 5th – 1st century BC. Some fragments of Roman material were also present (nine sherds, 52g) and as with the Iron Age material, fabric types represented were typical. These included Local Grey Wares and Severn Valley Oxidised Ware (eg SF20).

6.1.4 The pottery fragments in general are very much abraded and none can be linked to primary deposits associated with the monument itself (see Blinkhorn, Appendix C). Indeed, the value of the material assemblage at Oldbury has been in providing an indication of what happened on and around the monument after it was abandoned as a fort. The level of abrasion of the pottery indicates that fragments recovered from within the fort are likely to have been incorporated into ploughsoils, providing a date for that activity of between the 12th and 14th century AD. Test pits within the core of the village produced a higher number and wider variation of pottery, reflecting the development of the settlement of Oldbury during the 17th and 18th century AD.

6.1.5 Other than the pottery, there are very few finds which add more to the story of the site and its development. Copper alloy finds were very few in number and also poorly preserved. Two small fragments from Trench 15 (SF32) are the remains of a medieval buckle, broken at the fold with very slight traces of gilding. Apart from a few iron nails, the only iron artefact worth noting is a small shoe found in Test Pit 22, likely to be for a pony and certainly too small for a horse (estimated breadth is 75mm). A good comparison for the shoe dates to the 17th century, and was recovered during excavations at the Royal Manor of Fontevrault (Grove Priory, near Leighton Buzzard, see Duncan 2013). Only one of the clay pipe fragments is datable (19003), a bowl foot stamped with 'PE' dating to between 1640 and 1670 and linked to the producer Philip Edwards, who was based in the Lewins Mead area of St Michaels Parish, Bristol.

Table 1: Finds assemblage summary

Material	Weight (g)	Number of fragments
Bone and shell	385	167
Ceramic Building Material	1400	223
Clay Tobacco Pipe	121	59
Metal	1067	145
Flint	31	6
Glass	417	145
Other	933	604
Pottery	2331	725

Material	Weight (g)	Number of fragments
Slag	1280	128
Total	7965	2202

Table 2: Finds assemblage summary by trench

Trench	Bone / Shell	CBM	Metal	Flint	Glass	Other	Pipe	Pot	Slag	Total
3				1	1	3		8		16
4								1		1
6		8	1	1	2			9		21
8		3				1		2	1	7
9		4						1	2	7
11		3			3			4		10
12	7	11	3		3			9	3	36
13	1	4	1		2			8		16
14		1								1
15	13	10	13	5		11	1	118	1	172
16	25		1				1	8		36
17	2		5	1						8
18	47	64	64		66	331	24	240	83	918
19	53	68	36	1	41	252	20	153	37	661
20	12	15	16		10	2	3	128	1	187
21		1		1		3		14		19
22	7	30	8	1	17	10	10	70		153
Total	160	223	12	11	145	612	59	773	128	2269

6.2 Environmental summary

6.2.1 Recovery of environmental material from the site was minimal across the site, with few faunal or palaeoenvironmental remains present. In addition to samples taken for the recovery of OSL data and geoarchaeological material (see below), two bulk samples of 60 litres were recovered from Trench 16 in order to recover datable material or artefacts from the buried soil (16003) and the relict turf line (16008) above it. These samples, alongside the recovery of other environmental material, aimed to contribute to our understanding of the chronological phasing of the site (contributing to research Aim 2, Q4) and the palaeoenvironmental conditions (Aim 3, Q7, Q8 and Q9). As reported by McKenna (Appendix F), neither sample included material which was able to contribute to the understanding of the site from wither a chronological or cultural perspective. The light fraction recovered both samples mainly composed of root/rootlet fragments and modern plant macrofossils and, although both of the samples contained charcoal flecks, they were too small to enable identification or have any potential for radiocarbon dating. The heavy residues also contained small flecks of charcoal, but were again not viable for identification.

6.2.2 Animal bone was hand collected and retained from all deposits, with the exception of an articulated and complete cow skeleton in Trench 17 (17004). Generally, the faunal remains were in fair condition, with very few fresh breaks or refitted fragments indicating that burial conditions were good, and that there was little post-depositional movement (see Holmes, Appendix F). The majority of the material was recovered from Test Pits 18 and 19, including the teeth which were often very poorly preserved, and fragmentary. The high incidence of loose and broken teeth suggests that some time had elapsed prior to burial for them to fall out of the mandible, or that crania and mandibles were heavily processed. Canid gnawing was observed on two fragments, indicating that some bones were also not always buried immediately, but were left out for dogs to chew. Butchery marks were observed, suggesting that the assemblage was subject to processing.

6.2.3 Despite the small size of the assemblage, there was considerable diversity of taxa present, especially in Test Pits 18 and 19. Livestock dominated, particularly cattle and sheep/ goat, with a few bones of pig and chicken. Hare or rabbit were also recorded in Test Pit 18, and mole and corvid from Trench 16. The latter were most likely from the local environment; corvids are common scavengers in and around settlements, while moles require open ground, which is consistent with the area around Trench 16.

6.2.4 The remains of the cow skeletal material in Trench 17 were in very poor condition and situated in a pit which truncated earlier deposits. Although no finds were associated with the fill of pit, a copper alloy button from an earlier layer is likely to date to the 19th century (SF14). Elements of the cow skeleton located within the archaeological trench were hand excavated, photographed on-site and reburied within the trench.

7 PUBLIC IMPACT

Manda Forster

With contributions from Maiya Pina-Dacier and Johanna Ungemach

7.1 Public engagement

7.1.1 Throughout the excavation fieldwork, a public programme aimed to raise awareness of the project to the local community and those further afield (https://digventures.com/oldbury-camp/team/). The programme provided key moments throughout the project to engage with the local community and to broadcast our results as widely as possible. An illustrated summary of the public engagement aspects of the community excavation can also be found in Appendix O. A project introduction, our Grand Opening, launched the fieldschool and was attended by project volunteers and members of the local community. Talks outlined the project aims for the community excavation and introduced the team, whilst Paul Driscoll (Archaeological and HER Officer, South Gloucestershire Council) provided a look at the wider archaeological context. Following that a programme of evening lectures and lunchtime presentations included an introduction to constructing prehistoric monuments (Barney Harris), a summary of the local history sources for Oldbury (Karen Averby), a look at medieval and post medieval pottery (David Dawson), a 'bring out your finds' event and, on the last day of the dig, a sum up of findings from the excavations (Manda Forster and Chris Casswell). Following post-excavation analysis, two additional talks were presented in November 2017 (Manda Forster) providing a look at the excavations that incorporated the results of finds analysis and geoarchaeological assessment. It total, the public lecture programme was attended by 247 people, including both volunteers on the dig and the wider AFL project as well as members of the local community. Open days at the site proved popular, with six scheduled site tours taking place over three days. Each tour was extremely well attended, with around 30 people on each of the hour-long tours, amounting to 185 people in total.

7.1.2 The schools programme included an introduction to the archaeological site at the Oldbury-on-Severn Church of England VC Primary School, with staff attending the School Assembly to talk about what an archaeologist actually does. This was followed up with a visit to the site by pupils from the School, who took part in a Character Trail (Appendix N), learning about the archaeology through meeting some of the site's past inhabitants and visitors. A second schools visit involved pupils from the Olveston Church of England CV Primary School. In addition, the site was visited by the Bristol Young Archaeologists Club for a hands-on experience of the archaeology at Oldbury. The young archaeologists were able to wash and sort some archaeological samples, follow the Character Trail and get into the trenches for an afternoon of excavation. In total, around 100 children learnt about the archaeology at Oldbury, with 76 visiting the excavation trenches to have a look at the archaeology of the fort.

7.1.3 The project was supported by its own microsite, housing access to the archaeological data and information about the project team (via Digital Dig Team) alongside a curated timeline of social media outputs (https://digventures.com/oldbury-camp/timeline/). Through a combination of Twitter and Facebook posts, an average of around 16,000 impressions were made each day, resulting in around 400 engagements daily. The Oldbury Camp microsite was viewed around 500 times each day through the fieldschool, with an average browsing time of four minutes including both the Dig Timeline and the archaeological records. The microsite will remain open and all reports resulting from the excavations will be housed here and made readily accessible. In addition, a leaflet will be produced which summarises the results of the excavations and provides a signpost to where the site archive is accessible.

7.2 Volunteer contribution

7.2.1 Over the course of the June excavations, 59 volunteers contributed 150 days to the project. In HLF terms, this amounts to a value of £37,000 through a combination of skilled and expert volunteers taking part. During that time, volunteers were trained in a number of different skills and were able to take part in a range of activities. In addition to the core archaeological skills (excavation and recording), volunteers also benefited from lunchtime lectures from team members and visiting specialists. These covered finds recovery, environmental sampling, geoarchaeology, photogrammetry, survey, scientific dating, pottery identification and archiving. As activities included both trench excavation and a number of test pits around the village, volunteers were able to learn about the different techniques used and understand more about the archaeology of the periods represented. The majority of volunteers also engaged with the technical recording the archaeology recovered, using DigVentures' unique Digital Dig Team recording system to add detail in real-time to our archive.

7.2.2 Having an active learning programme for participants was an important strand of the project, providing the opportunity to get involved with all the activities and techniques being used. Specialists visiting the site were able to fully explain and discuss the different techniques used during the investigation (such as soils science and OSL dating) and volunteers were able to discuss the different research methods being utilised and get involved in collecting samples. The additional option to dig test-pits around the village provided an excellent opportunity for participants to recover a wider range of material culture and meant they were able to develop skills in post excavation processes. Our finds washing sessions enabled volunteers to see finds from both the trenches and test pits, and able to gain a more rounded understanding of the fort within the context of the village development. All dig participants were able to attend the programme of lunchtime and evening lectures and activities, providing further learning opportunities.

8 DISCUSSION

8.1 Morphology and dating of the monument

8.1.1 The topographic, lidar and aerial surveys successfully identified the physical extent of the monument and its place within the wider landscape. The remaining earthworks survive best to the northeast of the village in Field 7 on undeveloped pastureland where they consist of two parallel, curving banks with ditches on the outside (Figure 4 and Figure 18). Elsewhere traces of the earthworks are poorly defined, though the remnants of the inner bank were identified in Field 3. Camp Road runs through the ditch on the western side of the monument, allowing residential buildings to develop on the banks either side of it. On the southern side of the site the picture is less clear and no earthworks were present or indicated through geophysical survey. It may be that these landscape features have been removed or that they never existed. To the south of the site lies the course of Oldbury Pill, an ancient watercourse that could be perceived as having provided a natural border to the monument, and it has been suggested that the southeast of the monument functioned as a harbor or dock. Considerable deposits of estuarine alluvium of the Middle Wentlooge formation were found during the geoarchaeological survey in Field 5, indicating it was deposited in the Bronze Age (Tetlow 2017). Iron Age alluvial deposits were not encountered, meaning that by the time the monument was constructed the fields immediately south of the monument were dry land. No entrance is evident but the DSM from aerial images does identify a lower-lying area through the banks to the north – where Ham Lane, Camp Road and West End meet (Figure 5) – however, this may be the result of more recent village landscaping. The interior of the monument displayed extensive ridge and furrow oriented north to south in Fields 1 and 2 and east to west in the southern part. Other than this, and the existing field boundaries, no further landscape features were identified.

8.1.2 The geophysical surveys support the topographical, lidar and aerial surveys in that they identified the banks and ditch enclosing the site and ridge and furrow within, but also highlighted a number of internal features not visible from the surface. The most notable is the series of high resistivity features forming a ‘honeycomb’ or gridded pattern along the western side of Field 2, which may have geological origins or possibly be related to occupation of the site (Figure 6). Unfortunately, this area of the field was not available to the team for survey or excavation. Other anomalies identified mostly consist of continuations of field boundaries that match the extent of the ridge and furrow in Fields 1 and 4 and much later features, including the location of a football pitch and cricket square in Field 2 (Figure 7).

Figure 18: Aerial photograph of Oldbury Camp, looking west towards where Oldbury Pill meets the River Severn

8.1.3 Dating landscape and geophysical features alone is notoriously difficult, and it is only through their careful excavation and recording that date, form and function can be properly understood. Unfortunately, little information regarding the date of the monument's construction could be gleaned from the artefacts recovered, but through OSL samples taken from the inner bank and buried soil it is now possible to say that it was constructed in the 1st centuries BC and AD, with evidence for Middle Iron Age activity in this location. Morphologically, the bank and ditch earthworks correspond well with what one would expect to find from an Iron Age bivallate hillfort, although its location on what may have been a former low-lying island surrounded by marshland is worth noting. More complex, multivallate, hillforts tend to be a feature of later Iron Age monuments (Cunliffe 2005), which correlates well with the dates determined through OSL readings. The banks were constructed through the excavation of the ditches; this upcast material would then have been used to create the banks or ramparts. Evidence for a palisade was not forthcoming; however, the unusual step on the east-facing slope may have been created through the erosion of an area already destabilized by such a feature – this remains speculative though. One possible interpretation of the earthwork is that it originated during the Neolithic period as a henge, which was later modified to create a hillfort. Another interpretation is that Oldbury Camp was the site of later Viking activity (Iles 1980: 36 citing O'Neill 1974: 190). However, OSL dates established from the buried soil beneath the bank support its construction in the Late Iron Age and no artefactual or stratigraphic evidence was found to support specific use of the site in either Neolithic or Viking age.

8.1.4 Pottery recovered from the ditch and layers inside the monument suggest that the site was extensively cultivated during the medieval and early post-medieval periods, and that since then the land has likely been left to pasture. This may be linked to increased dairying, as opposed to agriculture, and certainly indicates a change to land practices from the 15th century onwards. Medieval pottery found in test pits west of Camp Road and situated outside the ditch indicates that there was also activity in the wider landscape during this period.

8.2 Landscape setting

8.2.1 The hillfort at Oldbury Camp should not be looked at as a discrete entity; its geographic location and relationship with similar monuments in the landscape must also be considered. This multidisciplinary approach enables a greater understanding of how and why people constructed and used the environment around them.

8.2.2 Oldbury Camp lies on a bedrock island of Mercia Mudstone surrounded by clay and silt deposits. Although the land rarely floods today, these clays and silts were laid in antiquity as a result of tidal inundation, forming saltmarshes to the north, east and west. On the southern side of the site runs Oldbury Pill, now a small heavily managed watercourse, which in the past would have formed a navigable river inland from the River Severn. Geoarchaeological assessment of samples taken from this side of the monument indicate that two episodes of deposition took place during later prehistory: the glacially-derived Lower Wentlooge formation *c.* 5,500 – 4,500 BC, followed by estuarine alluviation (the Middle Wentlooge formation) during the Bronze Age (Allen and Scaife 2010; Tetlow 2017). The Upper Wentlooge formation, deposited in the Iron Age, was absent from the samples, suggesting that there may have been a change in environment during this period to dry land. Worked flint, dating to the late Neolithic/early Bronze Age, recovered during the excavation indicates a degree of prehistoric activity in the area before the Iron Age. However, the assemblage had likely been redeposited from its original context. It is not until the construction of the hillfort in the later Iron Age that a significant degree of time and effort is invested in this area. This matches our current understanding of human occupation of the lower Severn Vale levels in the later prehistoric, evidenced as seasonal exploitation of the landscape with limited periods of settlement such as the mid-late IA site on the edge of the levels at Hallen Marsh. Here, a palisaded enclosure of Middle to Late Iron Age date was recorded, with evidence for timber, post-built structures and considerable artefactual evidence. The site was noted to have undergone several modifications and it was suggested that "it was constructed during a period when the Avon Levels were relatively dry, probably drier at least than the periods immediately pre- or post-dating the settlement" (Barnes *et al.* 1993, 8-13).

8.2.3 Understanding of hillforts and their date, function and morphology increases with each archaeological investigation. The term itself is something that is becoming increasingly misleading; although a monument may be classed a 'hillfort', it need not be on a hill or have functioned as a fort. This antiquarian title has been attributed to a great range of different Iron Age monument types, which all too often skew our perception of their function. As discussed in Section 2.1, Oldbury Camp could be classified a 'marsh-fort', but this interpretation also takes something away from our greater understanding of the how it would have interacted in the wider landscape during the Late Iron Age and beyond.

8.2.4 The site of Oldbury Camp takes advantage of a strategic low-lying position overlooking Oldbury Pill, which, despite not being located on what one would normally consider a 'hill', does share some geographical similarities with other Iron Age hillforts from the South Gloucestershire region in that they overlook navigable rivers. Stokeleigh Camp, Burwalls Camp and Clifton Downs Camp command views over the River Avon west of Bristol, Blaise Castle overlooks Hazel Brook, Bury Hill the River Frome, Wick North the River Boyd, and Damery over the Little Avon River. In addition to this there are a number of hillforts occupying high ground that overlook the Severn Estuary itself: Sudbrook Camp, Knole Park Camp, Elberton, Camp Hill, Abbey Camp, and The Castle (Figure 19).

8.2.5 We know from historical records that the site would have been situated in the Late Iron Age tribal region of the Dubonni, who had no interest in conflict and capitulated to Roman rule immediately upon invasion (Dio Cassius, *Hist. rom.* 60.20) whereas the Durotiges are thought to have resisted the invasion. Therefore, Oldbury Camp may have been constructed as a late reaction to the threat of Roman invasion, or a large enclosure on a slight promontory suitable for settlement, storage or agriculture. Considering the amount of time and resources needed to construct such a monument, it seems likely that the hillfort was constructed prior to AD 43 to control low-lying areas to the north and west in the Late Iron Age.

8.2.6 Rather than considering Oldbury Camp as a unique hillfort or marsh-fort, we should perhaps consider it more as playing a small part in the larger Iron Age landscape contributing to a network of sites controlling strategically favorable positions. A continuity of use at the site has been argued for through the recovery of small assemblages of Roman finds, with unsubstantiated claims of later Viking activity (Iles 1980: 36); it is not until the late 12th century when we see documentary evidence for settlement at *Aldeburhe* (Oldbury).

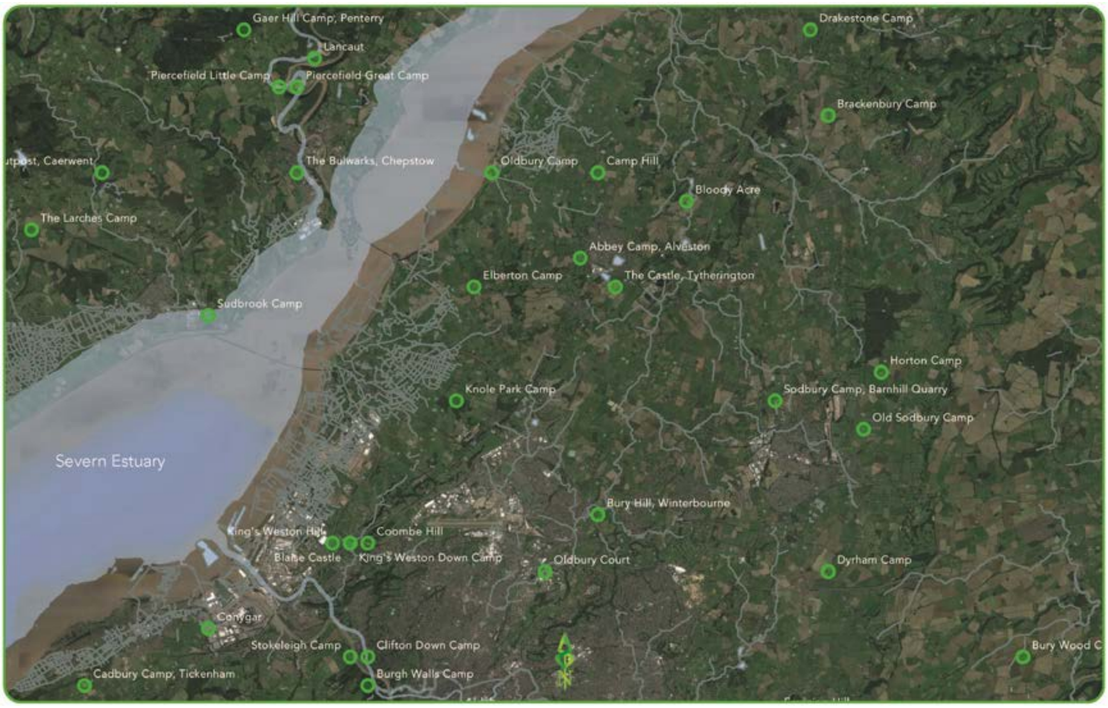

Figure 19: Hillforts of South Gloucestershire

8.3 The development of Oldbury village

8.3.1 The archaeological evidence from the garden test pits suggests that settlement began to encroach upon the monument from the 17th century, with ceramics of that date appearing at No.2 Roman Cottages (Test Pit 20), Rose Cottage (Test Pit 22) and The Old Forge (Test Pits

19 and 20). The lack of activity of this date at High Chimneys, Westend Lane (Test Pit 21) suggests that the core settlement development was a century or two earlier than that seen at the outskirts of the village.

8.3.2 From the early 19th century detailed maps of the village begin to appear. An 1830 map of the Manor of Thornbury represents the first comprehensive documentation to record information about land ownership in Oldbury (Figure 20), and the map is the first to depict the village in any useful detail. It shows the roads are largely unchanged since then, although the northern part of Camp Road was considerably wider. It is thought that this road, or possibly a yard surface extending from it, that was found in Test Pit 19 in the front garden of The Old Forge, which also appears on the map. The Old Forge was the focus of two test pits that were initially placed to establish the presence of the outer bank of the hillfort. It is located on the northern side of The Pill on elevated ground just north of the central crossroads within the village on land created by the earthworks of Oldbury Camp.

Figure 20: 1830 map of the Manor of Thornbury (left) and 1841 tithe map of the Parish of Thornbury (right)

8.3.3 The tithe map of 1841 shows a clearly defined plot associated with this building (Figure 20), and the accompanying entry in the tithe apportionment describes the premises as comprising a house, blacksmiths shop and garden, owned by Elizabeth Rymer, and occupied by William Phipps, presumably the blacksmith. The census of 1841 records that William lived here with his wife Ann and their children Ann, Harriet, George, John, Eve and Emma, the eldest aged eleven and the youngest one and a half. All were born in South Gloucestershire. The family were still resident by the time of the 1851 census, by which time some of the eldest children had left home, George and Harriet were working as their father's apprentice, and yet more children had been born. Both Ann and Eve were working as servants in Kington in the house of a wealthy farming family, the Parnells. The Phipps sons George and William subsequently worked as blacksmiths at the Old Forge, and William went on to marry and work as a smith where he employed at least two people. George, however, left smithing and became a farmer.

8.3.4 It is clear that, as the name suggests, The Old Forge was a blacksmiths workshop, likely constructed before the 19th century. The occupations of those associated with the building provide an insight into the local economy, which revolved around farming. In the 1841 census the most common occupation is 'agricultural labourer.' Interestingly, yeomen are recorded specifically as such, rather than as farmers. The nature and character of farm buildings can indicate a farm's prosperity. The National Government Farm Survey undertaken in the early 1940s indicates that Oldbury's farms were a mixture of dairy farms, smallholdings for grazing, and crop-growing. Orchards were also significant by the mid-19th century, and cider making was evidently a thriving local concern for several people. Some farms were held by yeoman farmers, or were owned and leased to tenant farmers. Smaller holdings were often owner-occupied. By the mid-20th century, however, a significant number of farms were managed by farm bailiffs and farmed by tenants.

8.3.5 Other occupations of Oldbury inhabitants included the expected suite of village trades, amongst them shoe making, carpenters, blacksmiths, coal merchants, tailors and dressmakers, shopkeepers, and the all-important innkeepers. In addition to these jobs, in the 14th century a tidal mill operated on the spot of the Anchor Inn, illustrating the importance of Oldbury Pill to the local population (Bradshaw 2001). A very small number of Oldbury residents lived on their own means, whilst at the other end of the social scale, young unmarried women in particular worked as servants for these wealthier families.

8.4 Archaeological and palaeoenvironmental conditions

8.4.1 In general, the archaeological conditions encountered were favorable to gaining an understanding of the site – allowing for a comprehensive record of cultivation, land management and soil profile development to be gained. The earthworks in Field 7 survived to a height of over 1m above the buried soil horizon, indicating that only a limited amount of ploughing has been undertaken on the top of the inner bank. However, the outer bank, assumed to have been the smaller of the two, was not seen during excavation having suffered greatly from erosion. The conditions within the ditch were generally favourable to the preservation of artefacts, despite the low numbers of finds recovered. The poor state of the bone from the cow burial in Trench 17 does, however, suggest the soils are quite aggressive to the preservation of bone, which may explain the general lack of it through the site. Within the earthworks, in Field 2, a thick cultivation layer had accumulated with some signs of limited manuring during the post-medieval period. Garden test pits investigated in the village produced more numerous and a wider range of finds indicating greater settlement activity from the 17th century, with some signs of earlier, medieval ploughing. No signs of the earthworks were revealed in these areas and it seems likely that any remains of them had been largely destroyed with the development of the village.

8.4.2 The state of preservation observed through palaeoenvironmental sampling was deemed to be of little interpretive value. However, the range of investigations into soil and sediment sequences in and around the Oldbury Camp site provides a comprehensive record of cultivation, land management and soil profile development post-dating the use of the hillfort, with soil profiles as well as manuring scatters and ridge and furrow attesting to at least some cultivation within the fort.

9 CONCLUSIONS

9.1.1 The initial aim of the project was to identify the physical extent and character of Oldbury Camp (Aim 1). This was achieved through the use of remote sensing techniques – in particular geophysical, aerial, geoarchaeological, and topographic surveys – to determine the layout and phasing of the hillfort. Aerial survey was used to generate a detailed DSM of the hillfort that was used to map the layout of the earthworks (Q1) and inform the location of targeted auger holes and test pits; these more invasive techniques were used to ground-truth anomalies identified on the geophysical survey (Q2). Auger transects placed across the monument also allowed a basic deposit model of the site to be made. This provided us with a basic understanding of the underlying deposits, and allowed us to start thinking about phasing the site through more extensive archaeological excavation (Q3) despite the hypothesis regarding ditch depth in the geoarchaeological report proving to be incorrect on excavation.

9.1.2 A targeted excavation of Oldbury Camp and its surroundings followed the successful fieldwork campaign in 2016. Its purpose was to enable a greater understanding of the development of the hillfort within a multi-period landscape (Aim 2). Further auger holes and test pits were opened across the monument to characterise the nature and date of the deposits previously identified at the site. It was confirmed through OSL dating that the earthworks themselves date to the later Iron Age, that there was medieval ploughing inside the monument and signs of the later medieval, or post-medieval, development of the village itself (Q4). The inner bank and ditch of the hillfort were positively identified during fieldwork, and the outer bank through remote sensing; but, little evidence for the type of activities that would have taken place at the site was found, demonstrated through the lack of artefacts recovered (Q5). A look at its landscape setting provides an insight into the initial intended use of the site; with access to views of Oldbury Pill, the River Severn and tidal flatlands to the north, Oldbury Camp was constructed to command views of the local landscape and to be visible. Its position on a highpoint in the landscape made it safe from flooding and lent itself to being further developed, in particular the western and northern side of the earthworks where much of the existing village now lies (Q6).

9.1.3 Throughout the excavation deposits were sampled to help understand the archaeological and palaeoenvironmental conditions (Aim 3). It was found that palaeoenvironmental conditions were not conducive to the preservation of organic artefacts, including bone; however, the preservation of pottery and other finds was generally good (Q7 and Q8). Sediments sampled within the trenches have informed us of the likely changes to agricultural practices on the site through the medieval and post-medieval periods; moving from intensive early ploughing to later pasture within the monument's interior (Q9 and Q10). Investigations outside the monument indicate that medieval ploughsoils may have developed, albeit to a lesser extent, probably as a result of these locations occupying lower-lying positions in the landscape making them more susceptible to flooding (Q11).

9.1.4 Importantly, investigations at Oldbury Camp have allowed us to definitively date the construction of the monument to the later Iron Age, enabling us to classify it as a hillfort. This work has also highlighted the agricultural use of the site throughout the medieval period, and identified the development of the village into the post-medieval period (Q12). In light of the results obtained through this scheme of works it seems fair to say that where the earthworks are still extant on its eastern side preservation of the archaeological asset is good, but where residential development has been made to the north and west all signs of the banks have been removed. Limited work was undertaken to identify internal features within the monument and, although they were not found, it is safe to assume that they are protected beneath a thick layer of medieval and post-medieval ploughsoils (Q13).

9.1.5 A community of interest has been built around the site and the results of this project will be further summarised and published via a leaflet distributed to the local community by the AFL project team. A further research dividend will be reached through the research and results of the OSL dating (Casswell and Kinnaird, forthcoming).

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Appendices

Appendix A: Trench and context descriptions

Appendix table 1: Trench 15 context descriptions

Trench 15	Dimensions: 10.00m x 4.00m Orientation: East to west Reason for Trench: Ditch and outer bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
15001	Friable, mid reddish brown sandy silt	Layer – Topsoil	Length – 10.00m Width – 4.00m Depth – 0.24m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15001			
15002	Compact, mid brownish red silty clay	Fill – Upper fill of ditch	Length – 9.00m Width – 4.00m Depth – 0.50m	F1501
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15002			
15003	Very compact, light yellowish grey with 5% manganese and 5% degraded limestone	Layer – Underlying superficial geology	Length – 2.00m Width – 0.75m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15003			
15004	Compact, mid brownish red clay	Fill – Fill of ditch below (15002)	Length – 9.00m Width – 4.00m Depth – 0.50m	F1501
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15004			
15005	Compact, dark reddish brown sandy clay with 5% manganese flecks	Fill – Fill of ditch below (15004)	Length – 1.20m Width – 1.00m Depth – 0.33m	F1501
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15005			
15006	Linear shape in plan oriented north to south with sharp break of slope at the top and shallow sloping sides	Cut – Ditch	Length – 8.00m Width – 4.00m Depth – 1.04m	F1501

Trench 15	Dimensions: 10.00m x 4.00m Orientation: East to west Reason for Trench: Ditch and outer bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15006			
15007	Hard, red clay with 5% sub-rounded mudstone inclusions	Layer – Natural		
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_15007			

Appendix table 2: Trench 16 context descriptions

Trench 16	Dimensions: 10.00m x 4.00m Orientation: East to west Reason for Trench: Ditch and inner bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
16001	Friable mid reddish brown sandy silt	Layer - Topsoil	Length – 10.00m Width – 4.00m Depth – 0.18m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16001			
16002	Firm, dark brownish red clayey sand, less than 10% sub-angular and sub-rounded stones	Layer – Clay capping of bank	Length – 5.00m Width – 4.00m Depth – 0.85m	F1602
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16002			
16003	Loose, mid yellowish brown sand	Layer – Buried soil at base of bank	Length – 2.30m Width – 1.00m Depth – 0.30m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16003			

16004	Firm light to mid brown sand with small red clay patches	Layer – Sandy bank deposit below (16002)	Length – 2.50m Width – 4.00m Depth – 0.40m	F1602
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16004			
16005	Firm, dark reddish brown sandy clay with <5% sub-angular stones	Fill – Fill of ditch below (16006)	Length – 4.00m Width – 3.00m Depth – 0.37m	F1601
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16005			
16006	Firm, light reddish brown clayey silt, with 5% small rounded mudstones	Fill – Upper fill of ditch	Length – 1.10m Width – 1.00m Depth – 0.49m	F1601
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16006			
16007	Firm, dark reddish brown silty clay	Fill – Basal fill of ditch	Length – 1.00m Width – 0.40m Depth – 0.25m	F1601
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16007			
16008	Soft, light greenish grey sandy clay	Layer – Relict turf-line	Length – 2.25m Width- 1.00m Depth- 0.02m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16008			
16009	Firm, mid brownish red clay with 5% sub-angular mudstones	Layer – Clay slump on north side of trench	Length – 4.00m Width- 2.65m Depth- 0.15m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16009			
16010	Hard, red clay with >70% large, grey sub-rounded mudstones	Layer – Natural		
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16010			

16011	Hard, mid reddish brown silty clay, with 5% small round mudstones	Fill – Fill of ditch below (16006)	Length – 1m Width – 0.71m Depth – 0.50m	F1601
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16011			
16012	Linear shape in plan oriented north to south with a sharp break of slope at the top and moderately steep sloping sides	Cut – Ditch	Length – 6.00m Width – 4.00m Depth – 2.00m	F1601
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_16012			

Appendix table 3: Trench 17 context descriptions

Trench 17	Dimensions: 10.00m x 4.00m Orientation: East to west Reason for Trench: Interior of monument			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
17001	Hard, mid greyish brown sandy silt, with 10% small sub-angular pebbles	Layer – Topsoil	Length – 9.50m Width – 3.00m Depth – 0.15m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17001			
17002	Medium, mid yellowish brown sandy silt, with 10% small to medium yellowish mudstone	Layer – Subsoil	Length – 9.50m Width – 3.00m Depth – 0.42m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17002			
17003	Rectangular shape in plan with square corners, oriented N-S with a vertical break of slope at the top, vertical sides, a non-perceptible break of slope at the bottom, and a flat base	Cut – Cut of pit for cow burial	Length – 1.00m Width – 2.00m Depth – 1.02m	F1701

Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17003			
17004	Soft mid-brown sandy clay, with 20% small to medium lumps of red clay (redeposited natural) with 5% small to medium green mudstone	Fill – Fill of [17003], contains badly degraded cow bones	Length – 1.00m Width – 2.00m Depth – 1.02m	F1701
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17004			
17005	Medium compacted mid greyish brown sandy clay with 1% small sub-angular yellow mudstone	Layer – Layer below (17002)	Length – 1.00m Width – 0.50m Depth – 0.30m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17005			
17006	Medium compacted mid reddish brown silty clay with 10% small to medium green mudstone cobbles	Layer - Natural	Length – 1.00m Width – 0.60m Depth – 0.12m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_17006			

Appendix table 4: Trench 18 context descriptions

Trench 18	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of outer bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
18001	Soft mid greyish brown sand with 10% charcoal and angular to subangular sandstone inclusions	Layer - Topsoil	Length – 1.00m Width – 1.00m Depth – 0.14m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_18001			

18002	Friable, mid brownish grey silty sand with 5% sub-angular stones	Layer - Subsoil	Length – 1.00m Width – 0.50m Depth – 0.22m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_18002			
18003	Firm, mid greyish brown clayey sand with 1% sea pebble and 15% charcoal inclusions	Layer – Garden soil	Length – 1.00m Width – 0.44m Depth – 0.19m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_18003			
18004	Medium dark orangey brown silty clay with 5% charcoal, 2% sandstone and angular to subangular cobble inclusions	Layer– Made ground	Length – 0.44m Width – 0.21m Depth – 0.14m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_18004			
18005	Firm, greyish orange sandy clay	Layer – Made ground	Length – 0.44m Width – 0.21m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_18005			

Appendix table 5: Trench 19 context descriptions

Trench 19	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of ditch			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
19001	Medium dark greyish brown sandy silty clay	Layer - Topsoil	Length – 1.00m Width – 1.00m Depth – 0.12m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19001			
19002	Medium mid greyish brown sandy silt with 25% small to medium subangular pebble and 15% white flecks (possibly limestone) inclusions.	Layer - Subsoil	Length – 1.00m Width – 0.50m Depth – 0.22m	

Trench 19	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of ditch			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19002			
19003	Medium dark greyish brown sandy silt with 25% charcoal fleck and 20% small to medium subangular pebble inclusions. Finds comprise bone, glass and pottery fragments	Layer – possible cultivation layer	Length – 1.00m Width – 0.50m Depth – 0.23m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19003			
19004	Medium mid orangey brown silty clay with 10% charcoal fleck and 10% small to medium angular to subangular pebbles inclusions. Finds comprise bone, clay pipe and pottery fragments, and ferrous objects	Layer– possible cultivation layer	Length – 1.00m Width – 0.50m Depth – 0.22m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19004			
19005	Medium mid orangey brown silty clay with 80% medium subangular stone inclusions	Layer – cobbled surface	Length – 1.00m Width – 0.50m Depth – 0.25m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19005			
19006	Medium mid reddish brown silty clay with 10% small to medium subrounded pebbles and 40% small to medium subangular pebble inclusions	Layer – Stone layer in silty clay	Length – 1.00m Width – 0.50m Depth – 0.06m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19006			
19007	Medium mid reddish brown silty clay	Layer - Natural	Length – 1.00m Width – 1.00m	

Trench 19	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of ditch			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_19007			

Appendix table 6: Trench 20 context descriptions

Trench 20	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of inner bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
20001	Medium mid greyish brown sandy silt with 5% small subangular pebbles	Layer - Topsoil	Length - 1.00m Width – 1.00m Depth – 0.16m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20001			
20002	Medium dark greyish brown sandy clay with 10% charcoal flecks, 10% white flecks (possibly lime stone?), 10% small to medium subangular pebbles	Layer – Subsoil / garden soil	Length – 1.00m Width - 1.00m Depth – 0.20m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20002			
20003	Medium mid grey gravel with small to medium angular pebble inclusions	Layer – Gravel	Length - 0.80m Width - 0.25m Depth - 0.06m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20003			
20004	Medium mid brown silty clay with 5% small angular pebble and 5% small charcoal fleck inclusions.	Layer – Garden Soil	Length – 1.00m Width - 0.50m	

	Finds comprise pot, bone and glass		Depth - 0.24m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20004			
20005	Medium mid orangey brown clayey sand with 1% small rounded pebble inclusions	Layer – Sterile layer above natural	Length – 1.00m Width – 0.50m Depth – 0.40m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20005			
20006	Circular cut with rounded corners, shallow sides, a gradual break of slope top and base and a U-shaped base	Cut – Modern pit	Length – 0.60m Width – 0.60m Depth – 0.24m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20006			
20007	Medium dark brown sandy silt with 1% small subangular pebbles	Fill – of (20006)	Length – 0.60m Width – 0.60m Depth – 0.24m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20007			
20008	Medium browny orange sandy clay with 15% medium sized mudstone inclusions	Layer – Natural	Length – 1.00m Width – 1.00m Depth – beyond LOE	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_20008			

Appendix table 7: Trench 21 context descriptions

Trench 21	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Outside the monument			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
21001	Soft dark brownish brown clayey sand	Layer - Topsoil	Length 1.00m Width – 1.00m Depth - 0.10m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_21001			

Trench 21	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Outside the monument			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
21002	Moderate mid orangey brown silty sand with 5% charcoal, 5% sandstone, pebble and stone inclusions	Layer – Subsoil / Ploughsoil	Length – 1.0m Width – 1.0m Depth – 0.23m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_21002			
21003	Firm, mid brownish red silty sand	Layer – Subsoil / Ploughsoil	Length – 1.0m Width – 1.0m Depth – 0.15m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_21003			
21004	Firm, light brownish yellow silty sand	Layer – Subsoil / Ploughsoil	Length – 1.0m Width – 1.0m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_21004			

Appendix table 8: Trench 22 context descriptions

Trench 22	Dimensions: 1.00m x 1.00m Orientation: N/A Reason for Trench: Projected line of inner bank			
Context	Description	Interpretation/ Process of deposition	Dimensions (m)	Feature
22001	Loose brown clayey silt. Finds comprise a plastic bag and burnt material	Layer – Topsoil / Garden lawn	Length – 1.00m Width – 1.00m Depth – 0.14m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_22001			
22002	Friable medium greyish brown silty clay with 15% charcoal inclusions. Finds comprise clay pipe, bone and pottery fragments, glass, degraded ferrous objects and a coin	Layer – Subsoil	Length – 1.00m Width – 1.00m Depth – 0.15m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_22002			
22003	Firm medium reddish brown, light bluish white mottling clay silt with occasional angular degraded stone inclusions	Layer – Natural	Length – 1.00m Width – 1.00m	
Link	https://digventures.com/oldbury-camp/ddt/cxt/OBC_22003			

Appendix B: Small finds register

Appendix table 9: Small finds register

Find Number	Context	Material	Quantity	Weight (g)	Description
1	15001	Copper Alloy	1	1	Very fragmentary remains of cu alloy within soil
2	15002	Ceramic	1	33	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
3	15002	Flint	1	1	Undiagnostic flint, debitage, probably discarded during the reduction process
4	15002	Ceramic	1	18	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
5	15002	Ceramic	4	7	Four small conjoining body frags
6	15002	Ceramic	2	13	IAA Malvernian Ware, 5th century BC – 1st century AD
7	16005	Flint	1	3	Retouched tool fragment with break at the distal end, after retouch modification. L.Neo/EBA?
8	15002	Ceramic	1	17	IAB2 Oolitic Limestone Ware, 5th century BC – 2nd century BC
9	15002	Ceramic	1	22	TF44 Minety-type Ware, early/mid 12th - 16th century.
10	15002	Flint	1	2	Mesial fragment with irregular dorscal scars. L.Neo/EBA? Debitage
11	15002	Ceramic	1	11	TF92 Bristol Redcliffe Ware, mid 13th – mid 14th century

Find Number	Context	Material	Quantity	Weight (g)	Description
12	15002	Ceramic	1	20	TF53 Ham Green B Ware, late 12th – 13th century.
13	15002	Ceramic	1	25	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
32	15005	Copper Alloy	2	2	Very fragmentary plate from probable buckle, with slight traces of gilding, broken at bend with perforation for rivet and tongue. Two frags, 10 x 15mm and 10 x 14mm. (MEDIEVAL)
15	21002	Flint	1	1	Flake, partial frag. Debitage Find was probably discarded during the reduction process and indicates that knapping was carried in the vicinity
16	21002	Ceramic	3	9	TF41B (1 body fragment) and TF53A (2 conjoining body frags) Saxo-Norman Oolitic Limestone Ware, 11th – 12th century. Ham Green "Cooking Pot" Fabric, 12th – 13th century
17	17004	Copper Alloy	1	1	11 x 6 x 1mm, small perforated strap with semi circular end, some corrosion
18	15004	Ceramic	2	18	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
19	15004	Ceramic	2	30	TF91 (rim); TF41B Worcester-type Sandy Unglazed Wares, 12th – 13th century Saxo-Norman Oolitic Limestone Ware, 11th – 12th century
20	15004	Ceramic	2	9	TF5 and TF41B Local Grey Ware, 1st – 3rd century Saxo-Norman Oolitic Limestone Ware, 11th – 12th century

Find Number	Context	Material	Quantity	Weight (g)	Description
21	15002	Ceramic	1	19	TF53 Ham Green B Ware, late 12th – 13th century.
22	15002	Ceramic	1	9	Single abraded body fragment
23	15004	Ceramic	1	7	TF41B Saxo-Norman Oolitic Limestone Ware, 11th – 12th century
24	15004	Ceramic	4	12	Four abraded body frags, different fabrics
25	16003	Flint	1	1	Heavily burnt undiagnostic chunk of flint Debitage Find was probably discarded during the reduction process and indicates that knapping was carried in the vicinity
26	15004	Ceramic	4	7	TF41B Saxo-Norman Oolitic Limestone Ware, 11th – 12th century
27	15004	Ceramic	1	5	One small body fragment
28	15004	Ceramic	1	6	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
29	15004	Ceramic	2	4	Two redcliffe ware frags, very abraded with faint green glaze
30	15004	Ceramic	1	5	TF41B Saxo-Norman Oolitic Limestone Ware, 11th – 12th century
31	15005	Ceramic	1	1	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
14	17005	Copper Alloy	3	2	Die cast discoid cu alloy button (Diam 17mm). Incomplete with possible stub of drawn wire loop fastening. No decoration visible, may have been cloth covered.
33	15005	Ceramic	2	12	TF5 Local Grey Ware, 1st – 3rd century

Find Number	Context	Material	Quantity	Weight (g)	Description
34	18005	Ceramic	2	11	TF41B Saxo-Norman Oolitic Limestone Ware, 11th – 12th century
35	18005	Ceramic	1	7	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century
36	18005	Ceramic	1	3	Small abraded body fragment Fabric type 003: handmade medieval or later jar / Colour: core: dark grey, ext. margin: mid grey, int. margin: orange grey, ext. surface: mid grey, int. surface: orange grey / Hard material with irregular fracture, smooth on the outside and coarse on the inside / irregular quartz and black inclusions
37	18005	Ceramic	1	1	Fragment of jug TF53 Ham Green B Ware, late 12th – 13th century
38	19001	Ceramic	1	7	TF52 Oxidized glazed Malvernian Ware, 14th–early 17th century
39	18002	Ceramic	1	15	TF72 Bristol-type Slipware, c 1650 – 1780
40	19001	Ceramic	1	7	TF52 Oxidized glazed Malvernian Ware, 14th–early 17th century
41	19001	Ceramic	1	6	TF52 Oxidized glazed Malvernian Ware, 14th–early 17th century
42	19005	Ceramic	1	32	Fabric type: 011 Green glazed redware jug, handle fragment
43	20002	Ceramic	1	41	TF53A Ham Green "Cooking Pot" Fabric, 12th – 13th century Open jar

Find Number	Context	Material	Quantity	Weight (g)	Description
44	20002	Ceramic	1	44	TF72 Bristol-type Slipware, c 1650 – 1780C Crimped dish fragment
45	19001	Ceramic	1	45	TF72 Bristol-type Slipware, c 1650 – 1780 Cup fragment
46	18002	Ceramic	1	3	TF72 Bristol-type Slipware, c 1650 – 1780 Plate fragment
47	19005	Ceramic	1	9	TF60 Cistercian Ware, late 15th – 17th century Cup fragment
48	19003	Ceramic	1	22	Green glazed redware, chamber pot, rim fragment
49	18002	Ceramic	1	7	TF74 Bristol-type Manganese Mottled Ware, late 17th – 18th century
50	15001	Ceramic	1	17	TF52 (Late) Oxidized glazed Malvernian Ware, 14th–early 17th century Bowl fragment
51	15001	Ceramic	1	14	TF95 Bristol/London stoneware, late 17th – 18th century Salt glaze handle
52	20001	Ceramic	1	3	TF74 Bristol-type Manganese Mottled Ware, late 17th – 18th century
53	18002	Ceramic	1	15	TF95 Bristol/London stoneware, late 17th – 18th century with applied decoration

Appendix C: Pottery report

Paul Blinkhorn

Introduction

The pottery assemblage comprised 68 sherds with a total weight of 2,264g. It comprised a mixture of Iron Age, Romano-British, medieval and post-medieval wares. All the Iron Age and most of the Romano-British material was redeposited in later contexts. The Romano-British and later fabrics were classified using the coding system of the Gloucester City type-series (eg. Vince 1984). Some difficulties were encountered with the identification of the calcareous wares as almost every sherd of this type had had the limestone inclusions dissolved away, presumably due to acidic soil conditions. The pottery occurrence by test-pit and trench is shown in Appendix tables 10 – 24. Each date should be regarded as a *terminus post quem*.

The vast majority of the pottery consisted of fairly small and abraded sherds, indicating that none of it was the product of primary deposition, with most, if not all, highly likely to have been deposited in soil horizons during manuring, and subsequently heavily disturbed by a long period of agricultural activity and erosion. The sections through the hillfort ditch produced largely medieval wares, indicating that they were probably largely filled in during the 13th – 14th centuries, probably by the erosion of nearby field-soils.

Iron Age

The Iron Age pottery assemblage comprised 9 sherds with a total weight of 76g. The following fabric types were noted:

- IAA: Malvernian Ware, C5th BC – AD C1st (Peacock 1965). 2 sherds, 14g.
- IAB2: Oolitic Limestone Ware, C5th BC – C2nd BC (*ibid*. 1968). 3 sherds, 28g.
- IAS: Sand-tempered, middle-late Iron Age (McSloy 2006). 4 sherds, 34g.

The range of fabric types is fairly typical of Iron Age sites in the region (eg. McSloy 2006). Two sherds of Iron Age pottery occurred in context 6002 in Test-Pit 6, a modern soil layer. The only trench to produce Iron Age pottery was Trench 15, which was cut through the hillfort ditch. Just seven sherds occurred, all in context 15002, the upper fill, and they were redeposited, being mixed in with a fairly large assemblage of medieval pottery. Stratigraphically earlier fills of the ditch, 15004 and 15005, were also medieval, dating to the 14th and 12th century respectively, suggesting that the Iron Age pottery was not originally deposited in the ditch, but was incorporated from elsewhere within the hill-fort by medieval ploughing and/or erosion. Certainly, the material was all fairly abraded, and had clearly been the subject of considerable attrition and transportation before its final deposition. It is all plain bodysherds, and thus cannot be dated other than to within the broad life-span of the wares.

Romano-British

The Roman-British pottery assemblage comprised 9 sherds with a total weight of 52g. The following fabric types were noted:

- TF5: Local Grey Ware, AD C1st – 3rd century. 3 sherds, 20g.
- TF11B: Severn Valley Oxidized Ware, AD C2nd - 4th. 6 sherds, 32g.

The range of fabric types is fairly typical of Romano-British sites in the region (eg. Burchill 1997). Two sherds occurred in Test Pits 9 and 11, with the former, from context 9003 possibly stratified, as it was the only pottery from the deposit. As with the Iron Age pottery, all the Romano-British material from the trenches was redeposited, and occurred in medieval or later assemblages. Four residual sherds occurred in the hillfort ditch in Trench 15, with three of them, from contexts 15004 and 15005, being stratigraphically earlier than the deposits which produced the Iron Age pottery.

Medieval or later

The medieval and later pottery assemblage comprised 665 sherds with a total weight of 2100g. The following fabric types were noted:

- TF41B: Saxo-Norman Oolitic Limestone Ware, C11th – 12th. 28 sherds, 99g.
- TF44: Minety-type Ware, early/mid C12th - 16th. 37 sherds, 129g.
- TF52: Oxidized glazed Malvernian Ware, C14th – early 17th. 38 sherds, 237g.
- TF53: Ham Green B Ware, late C12th – 13th. 2 sherds, 16g.
- TF53A: Ham Green "Cooking Pot" Fabric, C12th – 13th. 40 sherds, 279g.
- TF60: Cistercian Ware, late C5th – 17th. 4 sherds, 25g.
- TF62: Anglo-Dutch Tin-Glazed Earthenware, C17th – 18th. 2 sherds, 2g.
- TF67: Staffordshire White Salt-Glazed Stoneware, AD1720-1780. 2 sherds, 2g.
- TF70: North Devon Gravel-tempered Ware, C16th – 18th. 6 sherds, 31g.
- TF71: White Earthenware, C19th – 20th. 372 sherds, 611g.
- TF72: Bristol-type Slipware, c 1650 – 1780. 41 sherds, 127g.
- TF74: Bristol-type Manganese Mottled Ware, late C17th – 18th. 12 sherds, 33g.
- TF83: Brill/Boarstall Ware, C13th – 15th. 6 sherds, 16g.
- TF90: Worcester-type Sandy Glazed Ware, C13th – 14th. 6 sherds, 13g.
- TF91: Worcester-type Sandy Unglazed Wares, C12th – 13th. 1 sherd, 13g.
- TF92: Bristol Redcliffe Ware, mid C13th – mid 14th. 10 sherds, 55g.
- TF95: Bristol/London stoneware, late C17th – 18th. 5 sherds, 78g.
- TF96: Wanstrow-type Earthenware, C16th – 18th. 54 sherds, 347g.
- TF102: Chilvers Coton 'C' Ware, C14th. 1 sherd, 3g.
- TF121: Nottingham-type Stoneware, C18th – 19th. 3 sherds, 3g.

The range of fabric types is typical of Saxo-Norman and later sites in the region (eg. McSloy 2013; Jarrett 2013), although with a greater proportion of Cotswolds and Malvernian Wares than is usually encountered at sites to the south, such as in the Bristol area. It also suggests that there was continuous activity at the site from around the time of the Norman Conquest onwards. The assemblage is highly fragmented, with a mean sherd weight (3.2g) that is extremely low for pottery of this period and indicates very strongly that most of the assemblage is residual. In addition, over half the pottery is modern white earthenwares (fabric TF71; 372 sherds, 611g).

As noted above, most of the contexts from the hillfort ditch section in Trench 15 produced pottery that was no later than the 14th century, suggesting that it was largely filled at that time. Certainly, the sherds of TF52 from that feature are fairly coarse and with reduced cores, suggesting that they are from earlier part of the Oxidized Malvernian tradition, *ie* the 14th century. As with the rest of the assemblage, the pottery from features in this trench (119 sherds, 562g) was very fragmented, with a low mean sherd weight (4.7g), indicating that it was largely back-filled by the erosion of agricultural soils. Contexts in other trenches and test-pits (16005, 16006, 18005, and 19006) produced small and abraded assemblages of similarly fragmented medieval pottery with no later wares present, suggesting a similar taphonomy. Contexts 16005 and 16006 were the fills of the ditch in Trench 16, indicating that it filled up at broadly at the same time as the section in Trench 15, although the assemblage from this trench was much smaller (4 sherds, 16g) than that from there.

One of the main pottery types, Ham Green "Cooking Pot" Fabric (TF53A), covers a range of very similar wares which Vince (1991, 108) noted as possibly being from one or more sources on either side of the Severn Estuary, but most likely were made in the Bristol area. The earlier medieval assemblage (11th – 14th century) was dominated by this ware type, probably mostly in the form of jars along with a few bowls. A few rimsherds were present, mostly from such vessels. The bulk of the remaining material of this date are wares from the Cotswolds in the form of TF41B and TF44. Fragments of glazed jugs were quite scarce, which is a little surprising given the large and widely distributed contemporary glazed pottery industries in and around Bristol, such as Ham Green.

The later medieval (14th – 16th century) assemblage was dominated by Oxidized Glazed Malvernian Wares. Contexts 15002 and 18004 included small fragments of jugs of this type with slip decoration. This form of decoration is quite rare on such vessels, but usually of 14th century date (Vince 1977, 269). Most of the rest of the assemblage came from bowls, which is typical of the 14th – 15th century output of the industry (ibid. 284-6). The post-medieval assemblage is very typical of the period, with the bulk of the material made up of utilitarian glazed earthenwares in the form of Malvernian Ware and Wanstrow-type Glazed Red Earthenwares, along with a few sherds of North Devon Gravel-tempered Ware. Small quantities of better quality tablewares such as Bristol/Staffordshire Slipwares and Manganese Mottled Wares and Tin-Glazed Earthenware were also present.

Overall, primarily due to the fact that the vast majority of the pottery was deposited in plough-soils, the assemblage is of fairly poor quality, with most of it consisting of small and abraded sherds. Nevertheless, it still provides a useful picture of the life of the hillfort after its abandonment, with the wide range of pottery types in many contexts suggesting that the site was used for agriculture for much of the last 900 years.

Appendix table 10: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 3

		TF53A		TF44		TF121		
TP	Context	No	Wt	No	Wt	No	Wt	Date
3	3002	1	7	3	7	1	1	1100-1800

Appendix table 11: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 4

		TF44		
TP	Context	No	Wt	Date
4	4002	1	3	1120-1200

Appendix table 12: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 6

		IAA		TF53A		TF92		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	Date
6	6002	2	14					1	1	500BC-1900
6	6002/3			2	16	1	6			1100-1400

Appendix table 13: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 8

		TF53 A		
TP	Context	No	Wt	Date
8	8001	2	10	1100-1200

Appendix table 14: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 9

		TF11B		TF95		
TP	Context	No	Wt	No	Wt	Date
9	9002			1	22	1700-1800
9	9003	1	11			100-400

Appendix table 15: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 11

		TF11B		TF53A		
TP	Context	No	Wt	No	Wt	Date
11	11002	1	2	3	6	100-1200

Appendix table 16: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 12

		TF92		TF52		TF96		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	Date
12	12001	1	3	1	7	1	15	2	19	1250-1900

Appendix table 17: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 13

		TF96		TF71		
TP	Context	No	Wt	No	Wt	Date
13	13002	1	5	8	12	1550-1900

Appendix table 18: Pottery occurrence by fabric, number and weight of sherds per context, Trench 16

		TF53A		TF83		TF90		TF71		
Tr	Context	No	Wt	No	Wt	No	Wt	No	Wt	Date
16	16001							1	2	MOD
16	16005					1	4			13thC
16	16006	1	2	1	8					13thC
	Total	1	2	1	8	1	4	1	2	

Appendix table 19: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 21

		TF41B		TF53A		TF44		TF90		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
21	21001					2	3	1	3	5	8	MOD
21	21002	1	3	2	3	1	5			1	1	MOD
	Total	1	3	2	3	3	8	1	3	6	9	

Appendix table 20: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 22

		TF53A		TF52		TF96		TF70		TF72		TF74		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
22	22001			1	1					1	5	1	2	11	25	MOD
22	22002	1	2			5	46	1	6	3	12			46	124	MOD
	Total	1	2	1	1	5	46	1	6	4	17	1	2	57	149	

Appendix table 21: Pottery occurrence by fabric, number and weight of sherds per context, Test Pit 20

		TF53A		TF92		TF52		TF96		TF62		TF72		TF74		TF121		TF67		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
20	20001									1	1	2	1	2	4					8	6	MOD
20	20002	1	40	1	19	1	33	1	52			3	13							10	10	MOD
20	20004			1	2	5	40	5	36			6	15	1	6	1	1	1	1	25	41	MOD
	Total	1	40	2	21	6	73	6	88	1	1	11	29	3	10	1	1	1	1	43	57	

Appendix table 22: Pottery occurrence by fabric, number and weight of sherds per context, Trench 15

Topsoil

Tr 15	TF11B		TF41B		TF53A		TF44		TF52		TF70		TF96		TF72		TF95		TF71		
Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
15001	1	3	1	5	1	2	1	8	1	16	1	5	2	12	1	1	1	13	19	45	MOD

Medieval contexts

Tr 15	IAS		IAB2		TF5		TF41B		TF53A		TF44		TF52		TF53		
Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
15002	4	34	3	28			14	23	10	94	26	95	3	30	1	14	14thC
15004					2	8	5	30	6	36							14thC
15005					1	12			1	1							12thC
Total	4	34	3	28	3	20	19	53	17	131	26	95	3	10	1	14	

Tr 15 *(cont)*	TF83		TF91		TF83		TF92		TF90		TF102		TF52		
Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
15002					2	2	5	19	1	3			1	2	14thC
15004	1	4	1	13	1	1			2	2	1	3			14thC
15005															12thC
Total	1	4	1	13	3	3	5	19	3	5	1	3	1	2	

Appendix table 23: Pottery occurrence by number and weight of sherds per context, Test Pit 18

		TF41B		TF53A		TF44		TF53		TF90		TF52		TF96		TF62		TF70		TF72		TF74		TF95		TF121		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
18	18001			1	1									4	9			1	2	3	2	2	4					26	23	MOD
18	18002			5	29	1	3			1	1	8	41	16	49	1	1	2	3	11	34	4	9	2	40	1	1	95	120	MOD
18	18003			1	19							1	1							3	15							27	48	MOD
18	18004	4	19	1	4							1	3	1	3															M16thC
18	18005	2	11	1	7	1	4	1	2																					L12thC
	Total	6	30	4	31	2	7	1	2	1	1	10	45	21	61	1	1	3	5	17	51	6	13	2	40	1	1	148	191	

Appendix table 24: Pottery occurrence by number and weight of sherds per context, Test Pit 19

		TF41B		TF44		TF83		TF52		TF60		TF96		TF70		TF72		TF74		TF95		TF67		TF71		
TP	Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
19	U/S											5	32	2	8	4	15	2	8					18	26	U/S
19	19001							4	23					1	1	1	5							20	31	MOD
19	19002			1	1	1	1	6	25	1	1	4	15			2	6			1	3	1	1	47	63	MOD
19	19003											7	38			1	3							2	2	MOD
19	19004							3	20																	16thC
19	19005							3	7	3	24	2	35											2	4	MOD
19	19006	1	8																							11thC
	Total	1	8	1	1	1	1	16	75	4	25	18	120	3	9	8	29	2	8	1	3	1	1	89	126	

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Appendix D: Lithics report

Joshua Hogue

Method

All objects were laid out on polyethylene foam and examined macroscopically. A x10 magnification triplet loupe hand lens was used for further detailed observation of the finds. A catalogue was created listing for each find its associated contextual information, type, weight, potential age, condition, and a brief description of any notable features. The typo-technological classification followed standard recording procedures (e.g. Butler 2005; Inizan et al. 1999). The term chunk was used to describe an indeterminate piece measuring ≥10mm with no single identifiable ventral surface (*cf.* Ballin 2000). The condition of the object was also recorded, including evidence of breakage, burning, frost damage, and the development of weathering rinds (see definitions in Luedtke 1992). All finds were quantified by count and weighed to the nearest 0.1g. A record was made of the dimensions of complete objects to the nearest 0.1mm using Mitutoyo® digital calipers with an accuracy of ±0.01mm.

Results

In total, ten lithics were recovered which had evidence of being humanly struck. A breakdown of the assemblage is given according to trench and artefact type in Appendix table 25. A full archive catalogue of the worked material is given in Appendix table 25. The unworked material is quantified by count and weight in Appendix table 26.

The lithic assemblage dates from the late Neolithic/early Bronze Age and shows the presence of activity in the area pre-dating the construction of the Iron Age hillfort. It also highlights the relatively small and fragmentary nature of the lithic assemblage, which suggests that most, if not all, of the material survives as residual finds that were likely redeposited during subsequent activities. Even though the material had likely moved some distance from its originally depositional context, the range of artefacts present indicates that manufacture and tool use/discard was undertaken in the area. Based on their form it is plausible that the retouched tool and utilised flake were used for cutting and/or scraping tasks, although the residual nature of the finds impedes use-wear/reside analysis of the finds.

Appendix table 25: The lithic assemblage summarised by test pit/trench and artefact type

Artefact type	Test pit 3	Test pit 6	Trench 15	Trench 16	Trench 17	Trench 18	Trench 19	Trench 21	Trench 22	Total
Flake	1		3				1			4
Chunk		1	1	1						3
Retouched flake				1						1
Utilised flake					1					1
Total	1	1	4	2	1		1			10
Naturally broken/unmodified			7	2		1	3	4	1	18

Provenance

The finds density of the site appears to have been extremely low. Most of the test pits/trenches did not yield any humanly struck lithics. The only test pits/trenches from which these finds were recovered were Test Pit 3, Test Pit 6, Trench 15, Trench 16, Trench 17, and Test Pit 19. The number of chipped-stone objects ranged between one and four per test pit/trench. A few of the lithics were clearly *ex situ*. An unstratified find was recovered on the surface near Trench 17. A further three lithics were found in association with Medieval potsherds and/or recovered from relatively recent subsoil layers (3002, 19002, and 6002, respectively).

The remaining finds also appeared to be residual as they had characteristics that suggested a date range inconsistent with the proposed age of the feature from which they were recovered and/or their condition suggested that the objects may have been moved due to post-depositional processes (see below). These included, five lithics (including SF3, SF7, SF10, and SF15) recovered from ditch fills of the Iron Age hillfort (15002, 15005, and 16005) and one find from the underlying buried soil horizon (SF25, 16003).

Condition

Eight of the flints were broken (including SF3, SF7, SF10, SF15, and SF25). None had characteristic breaks indicative of having been intentionally snapped (e.g. radial fractures). It is extremely difficult to distinguish between incidental fragmentation during core reduction and breakage due to post-depositional processes (e.g. trampling). However, post-depositional trampling appears to be the most probable cause in at least a couple of cases. For instance, a retouched flake fragment (SF7) had a perpendicular break that truncated the retouched edge and is unlikely to have occurred during manufacture. Furthermore, a couple of artefacts had edge damage consistent with having occurred during post-deposition. These were both flake fragments (SF10 and SF15) with discontinuous damage along the relict edges and broken margins.

A couple of finds were burnt. One was an indeterminate chunk (SF15) and the other was a flake fragment. Both were discoloured, crazed, and heat fractured. These features are typically associated with siliceous materials heated to temperatures ≥350˚C and suggest that the finds were in direct contact with a fire (Lawrence & Mudd 2015). It is plausible that burning happened around the time of discard, although burning may alternatively occurred during later activities at the site. In either case, both finds must have moved some distance after having been burnt, with neither having been found in association with hearth features.

A single artefact had frost damage. It was an indeterminate chunk with a frost pit fracture covering most of one surface. The opposing surface was partially covered by a yellowish-brown colour patina with a waxy lustre. The remnants of a battered surface were also observable. It also had a couple of very small scars, which were consistent with the object having been struck, although it is plausible that this was due to natural processes. None of the other finds were frost damaged and/or had weathering rinds (e.g. patinas, wind gloss, etc).

Composition

The assemblage included both debitage and tools. The debitage consisted of three undiagnostic chunks (including SF3 and SF25), a small flake and four flake fragments (including

SF10 and S15). These finds were probably discarded during the reduction process and indicate that knapping was carried in the vicinity.

The tools included a retouched flake fragment (SF7) and a utilised flake. The former had semi-abrupt retouch along part of the right lateral edge. It was probably an expedient tool that was quickly made, used, and then discarded. The latter was made on a large elongated 'D-shaped' flake. It had broadly continuous damage along the convex edge, probably resulting from utilisation, and an opposing straight edge forming a natural back. It superficially resembled a Neolithic backed knife and similar pieces have been referred to as 'cutting flakes' (see Saville 1981).

Dating

Most of the finds were not strongly diagnostic of a specific era. The utilised flake was most closely datable. It superficially resembled a backed knife and similarly utilised blades/flakes have been recognised at numerous sites spanning the Neolithic, including Durrington Walls (Wainwright & Longworth 1971), Grimes Graves (Saville 1981) and Staines Enclosure (Robertson-Mackay *et al*. 1987). It appeared to have been made using hard-hammer percussion, which is typically associated with technological strategies adopted from the later Neolithic/early Bronze Age onwards and helps to refine the age of the find to the latter stages of the Neolithic.

The remaining finds were less strongly diagnostic, but some of the typo-technological traits recorded also suggested that the assemblage broadly dated from the later Neolithic/early Bronze Age onwards. These included:

- Use of hard-hammer percussion (e.g. crushed butts, pronounced bulbs, etc).
- Irregular dorsal scar patterns on flakes.
- Hinged terminations.

There is relatively limited evidence for flint use in the later Bronze Age/Iron Age. However, where it arguably occurs, similar flint knapping strategies were adopted to those of the immediately preceding eras – only a gradual decline in the level of knapping skill and range of formal retouched tools distinguishing the period (Humphrey & Young 1999).

Appendix table 26: Chipped stone archive catalogue

Context	Small find no.	Type	Weight (g)	Complete	Burning	Frost damage	Weathering	Edge damage	Period	Description
Test pit 3										
3002		Flake	0.3	Y					–	Very small, probably from striking platform prep. 12.9 x 9.5 x 2.5 mm.
Test pit 6										
6002		Chunk	1.0			Y	Y		–	Frost pitted, possibly natural. Thin yellow-brown patina partially covering one side.
Trench 15										
15002	3	Chunk	0.5						–	
15002	10	Flake	1.6					Y	L.Neo/EBA?	Mesial frag. Irregular dorscal scars.
15002		Flake	0.9						L.Neo/EBA?	Small proximal frag w/crushed butt and distinct conus indicating hard-hammer technique.
15005	15	Flake	0.7					Y	–	Partial frag.

Context	Small find no.	Type	Weight (g)	Complete	Burning	Frost damage	Weathering	Edge damage	Period	Description
Trench 16										
16003	25	Chunk	0.8		Y				–	Heavily burnt.
16005	7	Retouched flake	2.0						L.Neo/EBA?	Retouched tool fragment made on a flake with short semi-abrupt scaled retouch along part of the right edge. It has a break at the distal end, which after retouch modification. It has a plain butt with a double bulb of percussion indicating the use of the hard-hammer technique. Irregular dorsal scars.
Trench 17										
Unstrat.		Utilised flake	20.0	Y					L.Neo?	Large elongated 'D-shaped' crested flake w/use-wear along convex edge. The opposing straight edge is much thicker and forms a natural 'unretouched' back. It superficially resembles some formal backed knives found in the Neolithic, but has not been intentionally modified by retouch. It has a crushed butt w/detached bulb of percussion indicating it was struck with a hard-hammer. It has bidirectional crossed dorsal scars. It measures 59.0 x 30.3 x 12.3 mm.
Trench 19										
19002		Flake	0.8		Y				L.Neo/EBA?	Heavily burnt distal frag w/hinged termination.

Appendix table 27: Chipped stone, quantification of naturally broken/unmodified material

Context	Count	Weight (g)
15001	1	0.7
15002	4	15.0
15004	2	2.5
16004	2	2.3
18003	1	0.2
19002	1	1.6
19004	2	6.7
21002	4	9.7
22002	1	1.8
Total	18	40.5

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Appendix E: Geoarchaeology report

Joanne McKenzie

Introduction

A range of investigations across Oldbury Camp focused upon description and interpretation of soil and sediment sequences. These ranged from test pitting (Wilkins *et al*. 2016) and palaeoenvironmental survey (Tetlow 2017) in advance of excavation, to detailed recording of natural and potentially anthropogenic sedimentary sequences through a combination of excavation and targeted auger survey in 2017. The combined geoarchaeological work aimed to provide a greater understanding of the development of the monument (Aim 2) and the condition of the Site's archaeological and palaeoenvironmental conditions (Aim 3).

This section presents results from auger points undertaken during the 2017 excavation along with a more detailed discussion of the buried soil sequence sampled within Trench 16. It also provides an overview of the soil and sediment record created for Oldbury Camp during the 2016-17 investigations, discusses the contribution of this to understanding land use history at Oldbury, and comments on the potential effect on archaeological deposits of later land use and management, and the contribution of this to understanding, in particular, OSL at the site. Finally, it discusses the potential post-use disturbance, levelling and potentially affecting the integrity of the bank and ditch sequence at the site, particularly in terms of the OSL dating.

Palaeoenvironmental assessment 2016

An initial palaeoenvironmental and geoarchaeological investigation consisting of three borehole transects traversing fort interior and potential rampart locations at the south, north and east of the fort provided a comprehensive summary of the Oldbury sedimentary profile (Tetlow 2017). All transects showed a uniform basal sequence of Mercia Mudstone giving way to a related weathered marl, generally encountered at a depth below that attained by the hand-excavated test pit sequence (see below). An exception to this geological profile is seen in the southern N-S transect B, the majority of which is located across a clay/gravel sequence interpreted as estuarine (*ibid*.: 15) situated to the exterior of the likely southern rampart.

Deposits observed above these basal sequences were extremely similar, consisting of a mid-brown clay-rich subsoil observed from between 0.7-0.25m depth located below a darker brown, compact and clay-rich topsoil. The exception to this is a single borehole at the north-east of the fort, where a potential ditch fill and colluviation profile is identified, and the single sample point within a modern garden area which showed a darker, more humic upper sequence. Interpreted as representing unimproved pasture soil, the more extensive investigations of this topsoil-subsoil sequence undertaken via test pit excavation (below) indicated that it is in fact likely to represent cultivation activity of varied intensity.

Test pit excavation 2016

Nine test pits, located through four fields spanning the fort area, provide a more comprehensive outline of the upper sedimentary sequence. Four pits targeted potential rampart features located to the north (Field 6, Test Pits 13 &14) and south (Field 5, Test Pits 11 & 12) of the fort interior, a single pit to the east (Field 3, Test Pit 9) investigated a sequence of banks, ditches and a possible 'platform' at this point in the enclosure circuit. Finally, four pits (Test Pits 3, 4, 6 and 8) were located within Field 2, within the fort interior, their distribution (to the north of the interior) determined by access restrictions (Wilkins and Steel 2016). Excavation depth ranged from 0.42-0.96 m, with six out of nine pits < 0.54m deep, generally well within the upper 'topsoil/subsoil' sequence identified by the palaeoenvironmental investigation. Both written and photographic records for the four interior Field 2 test-pits illustrate an overall similarity in soil/sediment profile: a thin though distinct uppermost topsoil horizon sealing a thicker mid to orangey-brown deposit, sometimes subdivided according to slight colour/texture variation and generally forming a secondary horizon at least 0.20 – 0.25 deep. A tendency to orange to red colours within especially lower deposits in the sequence is likely to indicate illuviation (water movement down profile) and the corresponding relocation of iron compounds within the deposits. Small inputs of a varied range of finds indicative of manuring activity including pottery, ceramic building material (CBM), glass and metal objects support interpretation of these deposits as a ploughsoil sequence, in keeping with the evidence for rig and furrow formation across Field 2.

Despite the representation of probable bank/construction materials, the five test-pits located across the rampart circuit show fairly similar profiles: a darker, generally greyer uppermost topsoil deposit, and a browner to more orangey lower horizon, generally containing at least some finds. There is some variation: Test Pit 14 shows a compacted and more stony, silty clay material interpreted as upper bank material with very little evidence for a cultivated horizon – it is the only test pit with no finds at all. By contrast, Test Pit 9 to the east of the fort (Field 3) shows a deeper overall profile with a notably darker topsoil. While it is possible that this may be the result of greater soil amendment at this location, a general lack of associated finds makes it more likely that these differences relate rather to features associated with the fort. Artefact recovery from the 2016 test pits was uniformly low by comparison with recovery from the 2017 'garden' test-pits (see below).

Targeted auger survey 2017

As part of the 2017 excavation season, a targeted auger survey was undertaken along a SW-NE transect through Fields 2 and 6 in order to further investigate the nature of the putative cultivated horizons recorded in the 2016 test pit excavations. A hand-held Dutch auger with a reach of 1.2 m was used. The transect was situated to run parallel to Test Pit 3 and 4 within Field 2, and extend into Field 6 in the direction of the rampart, and Test Pit 14. The investigation contributed to the Aims of the project (Section 4) in the following ways:

- to extend detailed profile investigation to a greater depth within the north and west part of Field 2, and thus investigate deposits below the limit of excavation reached for the 2016 pits – in particular, identification of horizons pre-dating the cultivation profile now securely identified by the 2016 test pit excavation (contributing to Aim 3, Q 7 – 10).
- complete the geoarchaeological record for the likely medieval and later cultivation horizons identified by the 2016 test pit excavations by undertaking detailed recording: of colour (via Munsell), texture (via soil texture key), stoniness and inclusions (contributing to Aim 2, Q6).

Unforeseen circumstances meant that only three complete auger profiles could be completed: AH30 and AH31 in Field 2, situated adjacent to Test Pits 4 and 3 respectively, and AH32 within Field 6.

The two Field 2 profiles provide additional context for the test pit record. Two very similar friable dark grey/brown loamy sand/sandy loam deposits at the top of the profile represent a slightly desiccated (given prevailing weather conditions) an A or topsoil horizon: characterised by rooting and other biological activity, composed of a mixture of recent organic additions in the form of degraded vegetative cover along with mineral material. A greyer rather than darker brown colour indicates that organic matter input into this surface horizon is likely to be fairly low. Below this, finer and more compacted deposits (clay and silt loams with some sand) of richer brown to red colouration are identified as Ap, or ploughsoil horizons: thick layers created through the reworking and homogenisation of material derived from both topsoil and subsoil deposits through cultivation activity. Both profiles show limited colour and texture variation between this ploughsoil and subsoil layers below, indicating that cultivation activity may have involved only limited addition of organic manures to Field 2 – an observation generally compatible with the fairly low artefact recovery rate for the 2016 test pits. At point AH30, a change to redder, more clayey subsoil is marked by a slightly gritty lens to the base of the ploughsoil, while at AH31, slight dark red mottling – probably derived from iron movement down-profile – is all that indicates the subsoil level. Both points saw refusal of the auger before 1.2m, at 0.88 and 0.78 m respectively. No pre-cultivation archaeological horizons were noted, with point AH 30 showing discontinuous pale silt lenses towards the base of the profile, but no other inclusions.

Point AH31, taken towards the centre of Field 6, is very different. Here, a rich brown loamy topsoil seals a similarly rich dark brown Ap horizon which gradually becomes more reddish at a depth of c. 0.3m. Charcoal along with orange, red and yellow flecks throughout the plough horizon along with richer, darker hues indicate more intensive cultivation activity involving increased organic and possibly mineral amendment: the lower, redder of these layers continues past the c. 1.10m reach of the auger (within thick grass cover). This depth of soil showing colour within this range as well as char and flecking is indicative of at least some deliberate depth amendment for agriculture, e.g. the mixing of mineral material (such as dung-filled bedding or peaty turves) with organic manures to create a deeper ploughsoil. It is notable that the nearest 2016 test pits to point AH32 – 13 and 14 – show a radically different profile: shallower, lighter deposits which confirm not only their location upon the fort ramparts but also the clear difference in later cultivation activity on and off the rampart in this northern part of the fort interior. As the Pit 13 and 14 profiles are not hugely dissimilar in soil colour and texture to those seen throughout Field 2, point AH32 highlights a change in the profile sequence that otherwise would have been missed.

Garden pit excavation 2017

2017 investigations at the fort also saw the extension of the test pitting programme outside of the fort boundary, into a series of garden areas forming part of the modern Oldbury village see Figure 1). These were located to the west-north-west (adjacent front and rear garden pits Test Pits 18 and 19), due west (Test Pit 22), far west (Test Pit 21) with one pit located just inside the fort circuit to the north (Test Pit 20).

All pits provide a sharp contrast with the 2016 pits within Field 2 and across the bank/rampart sequences (detailed above). Uniformly darker deposits indicate a likely far higher input of organic materials into these locations, with a correspondingly (sometimes far) higher rate of finds recovery suggesting that much of this input is likely to have come from addition of household waste to the soil from the medieval period on. However, the typical ploughsoil-subsoil profile is not uniformly present, with sequences showing thick dark cultivated soil coming onto a sharp boundary with a heavy red clay silt (Test Pit 22), cultivated layers interspersed with stone rich horizons (Test Pit 19) alongside more typically agricultural A-Ap-B transitions (Test Pit 20, 18). Test Pit 21, located approximately 120 m to the west of its nearest neighbour, Test Pit 18, is notably paler and more sterile than those located around the fort circuit and thus within the immediate medieval village centre.

Such variation in profile sequence would be typical for small-scale 'plot' or 'garden' cultivation, with artefacts recovered from these pits suggesting that they represent repeated episodes of such activity dating from the medieval period into the 19th century (and indeed, into the present day). In terms of understanding historic cultivation practices in and around the fort, the difference in deposit composition and character between these pits and those of especially Field 2 is interesting. A tradition for the bulk of manure available – both organic and mineral – to be applied to the areas surrounding, rather than through the fort, seems to be indicated. This may indicate a focus on immediate garden plot cultivation, although note that 'garden' Test Pit 20 is located fairly near to the richly organic sequence revealed by auger point AP32 within Field 6. More expected variations in potential specifics of manure application may be observed. One notable variation is the presence of charcoal fragments and flecks: charcoal is recovered, sometimes in fairly large quantities (Test Pit 18) from all of the 'garden' pits apart from Test Pit 20, located further into the fort interior. Fuel wastes, it seems, may not have travelled very far from the hearth prior to their use as manure.

Excavation trenches 2017: the 'buried soil'

The excavation of Trench 16, located in order to investigate the inner rampart sequence to the north of the fort, revealed a buried soil sequence located at the base of the bank, recorded as (16008). In-situ tin samples were taken of this sequence of deposits, extending into the subsoil below and the bank sequence above, in order to allow for further (micromorphological) analysis if necessary. Due to the overall sterility of the bank, ditch and substrate as well as the putative old ground surface, thin section analysis was not undertaken. Post-sampling, tin samples of the buried soil sequence were recorded off-site in greater detail (Munsell colour, texture and general description) both with the naked eye and using a 10x hand lens. This is presented in Appendix 7. Out of the field, the sampled buried soil sequence shows a slightly more complex stratigraphy: some lensing within the likely buried land surface, probable (although small and rare) flecks of microcharcoal and/or manganese, as well as multiple zones of Fe accumulation. The clearest of these is present as a continuous band c. 4mm thick located between the upper portion of the buried soil and bank material (16004) above, with thinner, discontinuous lenses seen throughout.

Discussion: soils and sediment sequences

The range of investigations into soil and sediment sequences in and around the Oldbury Camp site provides a comprehensive record of cultivation, land management and soil profile development post-dating the use of the fort, and their potential effect on understanding Iron Age activity at Oldbury. Particularly marked, and discussed in detail above, is the apparent difference in soil amendment and manuring strategies applied to the land within the fort itself compared with surrounding areas corresponding to later medieval village development. With soil profiles as well as manuring scatters and rig/furrow features attesting to at least some cultivation within the fort, it is possible that further investigation of the nature of find scatters and a wider programme of test pitting and/or auger survey may prove a valuable contribution to understanding the development of medieval Oldbury with, especially, detailed investigations into patterns of pottery recovery within and around medieval settlement areas previously being used in reconstructing patterns of cultivation and land use (e.g. Jones 2004), as have geoarchaeological investigations into the effect on soil development of the addition of household waste material to cultivated areas (e.g. Golding *et al*. 2010).

Although of interest mainly to the post-Iron Age archaeology of Oldbury, these apparent differences in land management also highlight a generally lower level of cultivation-related disturbance within the fort area compared to its environs, which is significant. This is supported by both the test pit and auger sampling record, which finds little evidence for anything other than minimally enhanced ploughsoil development across the fort interior, and no evidence for marked disturbance of the bank sequence where investigated. It seems likely that the Iron Age archaeology of the Toot has seen little in the way of disturbance through the medieval and later period. These observations accord with the findings of the OSL study, focused on the bank, ditch and buried soil sequence identified within Trench 16. Here, luminescence stratigraphies indicate a gradual and undisturbed accumulation of the agricultural deposits overlying the Iron Age sequence.

The more detailed post-excavation assessment of the buried soil sequence also provides further context and validation for the OSL stratigraphic study. A key observation is the clear, sharp boundary, marked by the rich orange zone of iron accumulation, between the base of bank deposit (16004) and the buried soil sequence below it. This indicates rapid burial of the ground surface by the bank, and it is possible that the accumulation of iron at this point in the sequence is at least partly attributable to compaction. By contrast, a range of characteristics of the buried soil sequence denote gradual formation and a potential numbers pf phases of development of the sequence – rudimentary lensing and lamination, a leached lower layer, and individual episodes of iron accumulation seen at intervals throughout the sequence. This accords well with the high depletion indices and therefore likely comprehensive re-setting of the buried soil phase indicated by the OSL assessment.

Appendix table 28: Oldbury Camp auger survey points 2017: soil sequence descriptions

Field	Point No.	Depth from surface (m)	Munsell colour	Texture	Description
2	AP30	0-0.10/.12	7.5YR 4/1: dark grey	Loamy sand	Moderately friable dark grey topsoil (A horizon). Rooted. No visible inclusions. Rare rounded to subangular stones, 5-10mm.
		0.12-0.49	7.5YR 4/4: brown	Slightly sandy clay loam	Homogenous brown likely plough-derived (Ap) horizon. Compact. Some roots within upper .1m. No visible inclusions. Rare rounded stones, 5-15mm.
		0.49-0.57	7.5YR 4/4: brown	Sandy clay loam	Gritty lens to base of Ap with c. 5-10% moderate small (5-15mm) grey/white mineral inclusions.
		0.57-0.70	2.5YR 4/3: reddish brown	Clay loam	Reddish brown compact clayey subsoil (B horizon). Occasional orange to grey mottles. Rare grey grit inclusions.
		0.70-0.88+	2.5YR 4/3: reddish brown	Clay loam, silt lenses	Reddish brown compact clayey subsoil (B horizon). Occasional orange to grey mottles. Distinctive pale (10YR 8/4: very pale brown) discontinuous silt lenses, 2-5mm thick. No other inclusions.
	AP31	0-0.10	7.5YR 4/1: dark grey	Sandy loam	Slightly friable dark grey topsoil (A horizon), becomes notably paler upon drying. Slightly rooted. No visible inclusions. Rare rounded to subangular stones, 5-10mm.
		0.10-0.38	7.5YR 3/4: brown	Silt loam	Homogenous brown plough-derived (Ap) horizon, lighter than that seen at AP30. Moderately compact. Roots within upper 0.5m. No visible inclusions. Very few rounded to subangular stones, 5-10mm
		0.38-0.78+	5YR 4/4: reddish brown	Silty clay loam	Reddish brown compact subsoil (B horizon), more friable than that seen at AP30. Rare dark red mottles. No visible inclusions. Rare grey grit.
6	AP32	0-0.10/.11	7.5YR 4/3: brown	Loam	Slightly friable rich brown topsoil (A horizon). Rooted. Some (<5%) black char inclusions, 2-5mm. Rare rounded stones, 5-25mm.
		0.10-0.29/0.35	7.5YR 3/2: dark brown	Clay loam	Dark brown ploughsoil/amended soil horizon (Ap). Fairly compact, some rooting. 2-5% orange, red and yellow flecks, c.2-5mm. 2-5% black (char) flecks and small inclusions, c2-5mm, up to10mm. Rare rounded stones, 5-10mm.
		0.35-1.10+	5YR 3/4: dark reddish brown	Clay loam	Dark red brown ploughsoil/amended soil horizon (Ap). Compact, some rooting. 2-5% orange, red and yellow flecks, c.2-5mm. 5% black (char) flecks and small inclusions, c2-5mm, up to10mm. Rare small rounded stones, 5-10mm.

Appendix table 29: Oldbury Camp 'buried soil/old ground surface' sequence: soil descriptions.

Context No.	Context ID	Munsell colour	Texture	Description
16004	Initial bank deposit	5YR 4/4: reddish brown	Slightly loamy sand	Fine sand deposit which possibly shows some horizontal lamination. Compact. Occasional dark/black flecks may be small char fragments or possibly manganese. No stones. Clear, sharp boundary with Fe lens below.
No number	'rusting lens'	5YR 6/6: reddish yellow	Fine sand	Rich orange lens running below 16004. Continuous, max. 4mm width. No inclusions. No stones. Clear, sharp boundary with 16008 below. Zone of accumulated Fe.
16008	Relict 'turf line' of buried soil	Lensed: 7.5YR 4/6: yellowish red; 7.5YR 7/2: pinkish grey	Slightly loamy sand	Sequence of fine, discontinuous and interleaved lenses of yellow red to pinkish grey sand, varying in thickness and clarity. Rare probable char flecks, very rare pale orange mottles. Diffuse boundary with light brown sand below. Part of buried surface sequence.
		7.5YR 6/3: light brown	Slightly loamy sand	Generally homogenous light brown sand. Mottles and possible very small nodules of Fe. Some probable char/manganese flecks, rarer pink flecks. Slight accumulation of Fe at undulating boundary with light grey sand below. Part of buried surface sequence.
		7.5YR 7/1: light grey	Fine sand	Leached horizon showing discontinuous mottles and laminations of Fe rich sand. Very rare probable char/manganese flecks. Diffuse, undulating boundary with 16003 below.
16003	Buried soil	7.5YR 6/4: light brown.	Slightly loamy sand	Probably representing the original subsoil (B horizon) below the buried soil. Fine grained, compact, rare faint reddish mottles and more strongly expressed (though rare) pale grey sandy mottles. Lower boundary not observed.

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Appendix F: Environmental report

Introduction

Recovery of environmental material from the site was minimal across the site, with few faunal or palaeoenvironmental remains present. In addition to samples taken for the recovery of OSL data and geoarchaeological material (see below), two General Bulk Samples of 60 litres were recovered from Trench 16 in order to target the potential recovery of datable material or artefacts from the buried soil (16003) and the relict turf line above the buried soil (16008). These samples, alongside the recovery of other environmental material, aimed to contribute to our understanding of the chronological phasing of the site (contributing to research Aim 2, Q4) and the palaeoenvironmental conditions (Aim 3, Q7, Q8 and Q9).

Animal bone was hand collected and retained from all deposits, with the exception of an articulated and complete cow skeleton in Trench 17 (17003). The remains were in poor condition and present in a cut feature [17003] truncating later deposits (17005). Although no finds were associated with the fill of pit [17003], a copper alloy button from (17005) is likely to date to the 19th century (SF14). Bones within the trench were hand excavated, photographed on-site and reburied within the trench (see https://digventures.com/oldbury-camp/ddt/tch/OBC_17).

Faunal remains

Matilda Holmes

Bones were generally in fair condition (Appendix table 30), with very few fresh breaks or refitted fragments indicating that burial conditions were good, and that there was little post-depositional movement. Two fragments of fresh bone were recovered from Trench 16 (context 16004) that would have been modern additions. It is interesting therefore to note that teeth were often very poorly preserved, and fragmentary. Teeth generally preserve better than bone, and may indicate that they were subject to different taphonomic pathways. This is exemplified by the high incidence of loose and broken teeth suggesting that some time had elapsed prior to burial for them to fall out of the mandible, or that crania and mandibles were heavily processed. Canid gnawing was observed on two fragments, indicating that some bones were also not always buried immediately, but were left out for dogs to chew. Butchery marks were observed, suggesting that the assemblage was subject to processing.

Despite the small size of the assemblage, there was considerable diversity of taxa. Livestock dominated, particularly cattle and sheep/ goat, with a few bones of pig and chicken. Hare or rabbit were also recorded, and the presence of the latter suggests a post 12th century date (Sykes and Curl 2010). It is unlikely that the mole or corvid were eaten, but were most likely from the local environment. While corvids are common scavengers in and around settlements, moles require open ground, which is consistent with the site. It is possible that the mole was used for its fur, although no cut marks were noted. There is little that the animal remains can add to the project’s research aims (notably Q9 regarding farming regimes and food processing) beyond that described here.

Appendix table 30: Condition and taphonomic factors affecting the hand-collected assemblage identified to taxa and/ or element. Teeth included where stated.

Condition	Number
Fresh	2
Very good	
Good	6
Fair	15
Poor	1
Very poor	
Total	24
Refit	7=1
Fresh break	1
Gnawed	2
Loose mandibular teeth*	16
Teeth in mandibles*	0
Butchery	4
Burning	0

Appendix table 31: Number of fragments by context, taxa and element

Context	Cattle	Sheep/ goat	Pig	Hare/ rabbit	Rabbit	Mole	Bird	Chicken	Corvid	Unidentified mammal	Medium mammal	Large mammal
12002	Tooth											
13002										3		
15002												1
16001		Tibia										
16004						Radius	Long-bone		Sternum		2	
16005											1	
16006	Mandible											
16007											4	
17002										1		
18001										1	5	
18002	Tooth	Humerus, teeth x2	Tooth	Meta-podial	Radius					6	2	4

Context	Cattle	Sheep/ goat	Pig	Hare/ rabbit	Rabbit	Mole	Bird	Chicken	Corvid	Unidentified mammal	Medium mammal	Large mammal
18003		1st phalanx, lumber vertebra, tooth	Tooth							1	11	
18004										4		1
19001		Radius		Tibia						1	2	
19002	Thoracic vertebra							Scapula				5
19003												1
19004												2
19005	Carpal, teeth x2	Thoracic vertebra								5	4	
19006		Meta-podial								4		2
20002		Tibia									1	1
20004	Femur, teeth x2									3		2
22001		Tooth										
22002		Ulna									5	
Unstrat	Meta-podial	Humerus x 2, tooth								1	2	2
Total	11	16	2	2	1	1	1	1	1	30	39	21

Palaeoenvironmental results

Rosalind McKenna

Methodology

The programme of soil sampling implemented during the excavation included the collection of soil samples from well stratified archaeological contexts. Sampling supported the Aims and objectives identified in Section 4, specifically to:

- assess the type of preservation and the potential of the biological remains (contributing to Aim 3, Q7)
- assess how well deposits and artefacts are buried, and how well they survive (contributing to Aim 3, Q8)
- record any human activities undertaken on the site – both domestic and industrial (contributing to Aim 3, Q9)

- provide information on the past environment of the area ((contributing to Aim 3, Q10 and Q11).

Two bulk samples were recovered from the excavations with the aim of recovering datable material. Samples OBC_9 comprised a 60l soil sample from the basal fill of the inner ditch (16007), and OBC_10 a 60l sample including material associated with the potential old land surface (16003). The light fraction recovered from the environmental samples OBC_9 (16007) and OBC_10 (16003) each weighed both less than 5ml in size, and were mainly composed of root/rootlet fragments and modern plant macrofossils. Both of the samples contained charcoal flecks, which were too small to enable successful fracturing and display of identifying morphological characteristics. The heavy residues also contained these small flecks of charcoal, but are also not viable for identification. Sample OBC_10 (16003) contained two small fragments of very poorly preserved indeterminate cereal grains – again lacking in identifying morphological characteristics.

The samples produced very little environmental material of interpretable value. This may indicate that preservation is very poor and material does not survive well, or the absence may reflect a lack of palaeoenvironmental material in the contexts that were excavated. No material recorded was viable for radiocarbon dating.

Appendix table 32: Samples

Sample number	Context	Other contexts	Condition	Contamination	Type	Sample size	Why taken?	Volume taken?	Processed?
1	16001		Dry	None	OSL	<5%	OSL Column	<100g	Processed
2	16001		Dry	None	OSL	<5%	OSL Column	<100g	Processed
3	16005		Dry	None	OSL	<5%	OSL Column	<100g	Processed
4	16002	16003 16004 16008	Dry	None	OSL	<5%	OSL Column	<100g	Processed
5	16010		Dry	None	OSL	<5%	OSL Column	<100g	Processed
6	15005		Dry	None	OSL	<5%	OSL Column	<100g	Processed
7	16003	16008	Dry	None	Kubiena	<5%	Examine buried soils	0.5 l	Not recommended
8	16004	16008	Dry	None	Kubiena	<5%	Examine buried soils	0.5 l	Not recommended
9	16007		Dry	None	GBS	<5%	Ecofact recovery	60 l	Processed 50%

10	16003		Dry	None	GBS	<5%	Ecofact recovery	60 l	Processed 50%
11	16002	16004	Dry	None	OSL	<5%	OSL Date	<100g	Processed
12	16004		Dry	None	OSL	<5%	OSL Date	<100g	Processed
13	16003		Dry	None	OSL	<5%	OSL Date	<100g	Processed
14	16003		Dry	None	OSL	<5%	OSL Date	<100g	Processed

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Appendix G: OSL field evaluation report

Tim Kinnaird, with Chris Casswell and Manda Forster

Introduction

Tim Kinnaird visited DigVentures' excavation on the Toot, Oldbury on Severn, on the 27th and 28th of July 2017, with the aim of charactering the luminescence stratigraphies associated with the bank and ditch of an Iron Age Hillfort, and retrieving sediment samples from key stratigraphic and archaeological contexts from sediments in and surrounding this monument.

54 bulk sediment samples were appraised from four sediment stratigraphies, selected to encompass the range of rampart bank and ditch materials: profiles 1 and 2 examine the sediments comprising the upper fill(s) to the ditch; profile 3, the sediments comprising the bank, and potentially the underlying substrate; and profiles 4A and 4B, the sediments forming the main bank or rampart (Appendix figure 1: Positions of the profiled sediment stratigraphies are shown relative to the rampart bank and ditch. Profiles 1 and 2 examine the sediments comprising the upper fill(s) to the ditch; profiles 3 and 4 the materials forming the substrate and bank).

Appendix figure 1: Positions of the profiled sediment stratigraphies are shown relative to the rampart bank and ditch. Profiles 1 and 2 examine the sediments comprising the upper fill(s) to the ditch; profiles 3 and 4 the materials forming the substrate and bank

Objectives

The objectives of the site visit were threefold:

- to assess the suitability of these materials to luminescence dating, using the combination of field-based profiling using portable OSL equipment, coupled with *in situ* gamma dosimetry measurements;
- to construct, if the materials proved responsive, *luminescence stratigraphies* across the site, to differentiate between the materials forming the substrate, rampart bank and ditch; and
- to offer recommendations on which materials to take forward to laboratory analysis and luminescence dating.

Methodology

OSL sampling was carried out by Tim Kinnaird. All sections were cleared back by at least 15 cm under temporary dark cover, prior to collection of individual bulk samples in plastic petri-dishes (which were stored in individual zip-seal bags and black plastic bags ahead of measurement). Luminescence measurements were made in the field using portable OSL equipment (provided by the University of Stirling), using an interleaved sequence of system dark count (background), IRSL and OSL, similar to that described by Sanderson and Murphy (2010), and utilised by Kinnaird et al. (2017; 2015). The interpretation of IRSL and OSL signal intensities, their depletion indices and the IRSL:OSL ratio have been discussed in a number of recent publications (Kinnaird et al., 2017; 2015; Munyikwa et al., 2012; Muñoz-Salinas et al., 2011; Sanderson and Murphy, 2010). In brief, IRSL and OSL intensities can act as age proxies in well-bleached sedimentary units, assuming common sensitivities and dose rates. Discontinuities or 'inversions' in the signal intensity-depth profiles can reflect differences in the initial sedimentary characteristics or depositional circumstances. The depletion index, which represents the proportion of signal released in the first half of a stimulation cycle relative to the second half, is an indicator of sample transparency, coupled with information about whether a sample contains an inherited or single cycle signal. The term 'inheritance' or 'residuality' refers to the geological and/or environmental luminescence signals that may remain following a zeroing event. Higher depletion indices would indicate better-bleached material. The IRSL:OSL ratio encodes information on the relative contributions of IRSL- and OSL-emitting minerals, potentially reflecting the relative abundances of feldspar and quartz, and the weathering history of the sediment.

These proxies are routinely used, in conjunction with sedimentalogical observations, to provide an initial interpretation of the luminescence properties of individual samples, and to generate *luminescence stratigraphies*.

Four profiles were targeted for OSL profiling; sediment samples for OSL dating were retrieved from one of these.

First, the north- and south-facing baulks, on the southern and northern limits of the trench, were sampled to appraise the luminescence behaviour of both the topsoil, and the materials forming the upper fill(s) to the ditch. The profiles encompassed c. 15 cm of topsoil, grading into 35-40cm of brown, compacted clay loams (16006). From the north section, a series of 5 small bulk sediment samples were taken at approximately 6-8 cm intervals down-profile for

OSL profiling (Appendix figure 2); from the southern section 7 samples were taken at c. 5 cm intervals down-profile for profiling (Appendix figure 3).

The sediments show a progression in luminescence signal intensities with depth, from approximately 3.0 to 8.0 × 10^2 counts in OSL, and from 100 to 1000 counts in IRSL. The exceptions to this trend, are the intervals at depth at c. 20 cm and 15-32 cm in profiles 1 and 2, respectively, which are characterised by signal intensities in excess of 1.3 × 10^3 counts in OSL, and >1000 counts in IRSL. Initial impressions are that both profiles reveal a buried palaeo-surface of some kind at c. 30-35 cm, overlain by first, slope-wash deposits, then the agricultural soil. In terms of relative timings, the agricultural soil accumulated gradually with time, with a clear stratigraphic break between this and the buried surface/soil below, which exhibits a more stable and longer time-depth. Note, that both the topsoil or agricultural soil, and the buried materials below, are characterised by the highest depletion indices within these profiles, and the slope-wash deposits, by the lowest depletion indices. These profiles thus reveal the parts of the sediment stratigraphies most likely to have been re-set at deposition (i.e. the buried soil), and conversely, the parts which were re-deposited without their luminescence signals being re-set (i.e. the slope-wash deposits). Moreover, the sedimentological breaks coincide with a change in the IRSL:OSL ratio, with the slope-wash deposits characterised by higher ratios, indicative of these units containing a greater abundance of IRSL-emitting minerals.

Second, the sediments forming the east-facing baulk at the western limit of the lower of the two sondages (Appendix figure 1), associated with either the substrate or the main bank, were appraised through 8 small bulk sediment samples. The significance of these samples is that they should provide the means to differentiate between the bank and substrate deposits. This profile comprised (from top down) 5-10 cm of tan sands, overlying 40 cm of brown, compacted clays, with an observable reduction in fine sands with depth.

The initial field impression was that these sediments exhibited a gradual accumulation over time, with signal intensities increasing with depth from 1.0 to 1.5 × 10^3 counts in OSL and 1.4 × 10^2 to 3.8 × 10^3 counts in IRSL. There is a clear temporal break at depth, between 37 and 42 cm down-profile, marked by the step-like increase in signal intensities to in excess of > 4.0 × 10^3 counts in OSL and 1.0 × 10^4 counts in IRSL. In terms of relative timings, all sediments analysed in profile 3 returned signal intensities an order of magnitude larger than those observed in profiles 1 and 2 (excluding those observed in the slope-wash deposits), implying that these sediments are substantially older. Note, that the signal intensities observed from the slope-wash deposits in profiles 1 and 2, are in excess of those observed here; this must imply that these deposits were derived from a higher structural level in the bank (see below).

Third, the sediments forming the east-facing baulk at the western limit of the upper sondage, and attributed to the main bank, were appraised through two profiles of 20 and 14 small bulk samples each (profiles 4A and 4B, respectively). The profiles encompassed (from top down), 20-25 cm of hard, compacted clays (forming a 'cap' to the lower sediment sequences), c. 25 cm of compacted, but softer, clays, then c. 10-15cm of tan sands, before a return to brown clays for a further ~ 30 cm. At depth, 92 cm down-profile in profile 4A and 79 cm in profile 4B, there is a clear stratigraphic break in the sediment stratigraphies, corresponding to a thin, cm-thick horizon, of orange-brown sands, overlying > 40 cm of grey-brown sands, which extend down beneath the limit of the present excavation.

The initial observations drawn from field profiling were as follows:

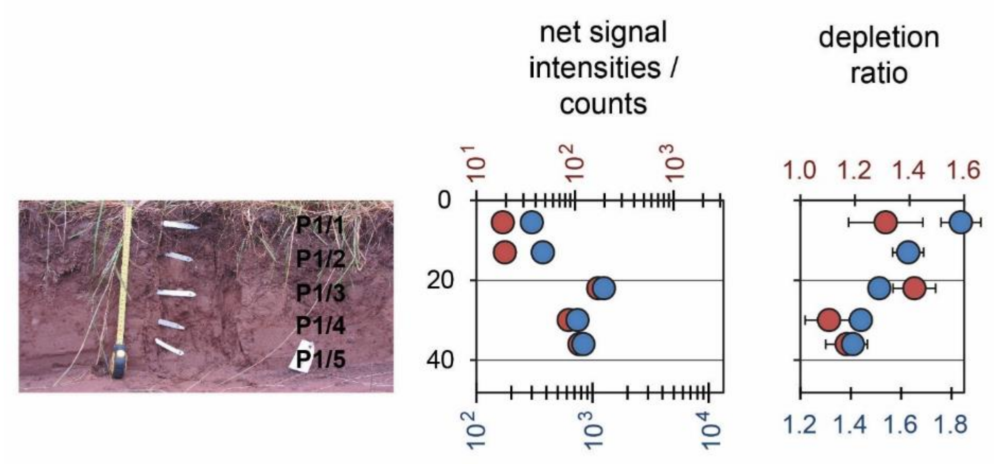
- assess how well the intensity-depth profiles suggest the presence of a buried palaeo-surface of some kind at c. 80 to 90 cm (sloping at a slight angle to the north); signal intensities in the buried materials beneath this surface show a normal age-depth progression, progressing from 2.0 to 4.0 × 10^3 counts in OSL and 4.6 × 10^2 to 1.0 × 10^3 counts in IRSL. The regression in signal intensities towards this surface is accompanied by an increase in depletion ratios, a favourable behaviour for luminescence dating, and consistent with these sediments being well reset at deposition, and the in situ growth of luminescence
- above this, the overlying c. 65 to 75 cm-thick package of clays and sands, are characterised by inverted signal intensities over the range 6.5 to 3.8 × 10^3 counts in OSL and 1.8 to 1.0 × 10^3 counts in IRSL. This suggests a change in the depositional circumstances, and would be consistent with these materials being re-deposited during construction without the luminescence signals being reset. It is notable that these deposits are also marked by the lowest depletion ratios within the profile, which is consistent with these materials being poorly bleached at deposition. Significantly, it is only within this unit that signal intensities comparable to those obtained from the slope-wash deposits in profiles 1 and 2 are observed. This provides information on the form of the bank at the time these sediments were accumulating in the ditch – as the bank must have been exposed to this structural level, to contribute materials with such characteristic luminescence behaviour to the lower ditch.
- the clays forming the 'hard cap' to the lower sequences must have been exposed for some duration of time, as these sediment show a normal age-depth progression from 1.8 to 3.6 × 10^3 counts in OSL and 7.3 × 10^2 to 3.0 × 10^3 counts in IRSL.
- the buried soil at c. 80 – 90cm is characterised by similar luminescence characteristics to those observed at greater than 40 cm depth in profile 3, suggesting that these units may be broadly time equivalent. Thus, all of profile 3 should be attributed to the bank, and not the substrate.

This information was used to guide the positioning of the sediment samples taken for OSL dating. The dating samples were positioned on either side of the buried surface in profile 4, and should provide both TPQ and TAQ for the age of the old land surface, and a constraint on the age of the buried soil. A third sample was taken at the top of the overlying package of clays/sands. The significance of this sample is that it should provide information on the early site formation processes; if as supposed this is the oldest sediment preserved on site, it potentially provides temporal data on the duration of construction.

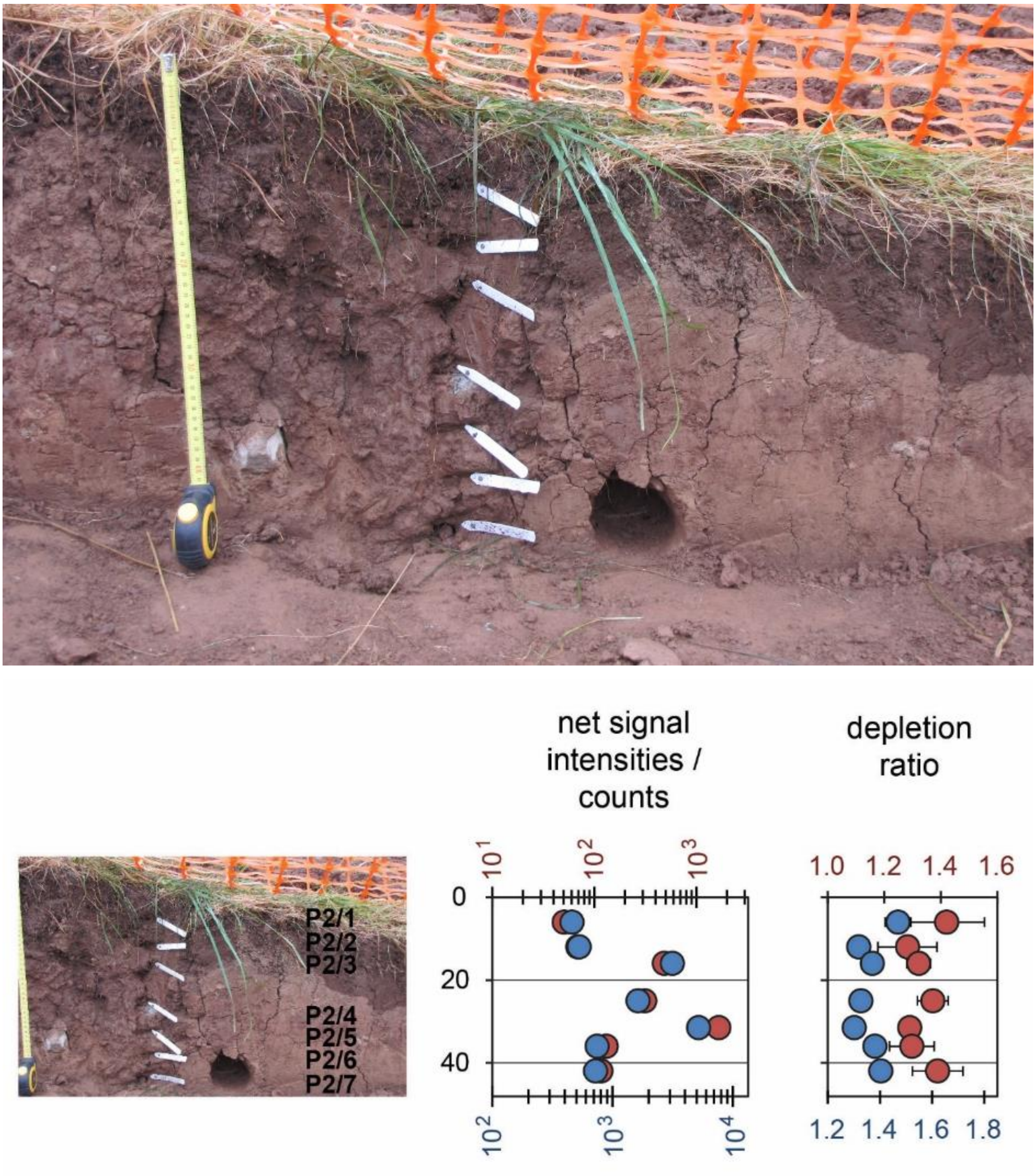
Potential and conclusions

It has been established that the sediment stratigraphies sampled here have promising luminescence behaviour, and are amenable to OSL profiling and dating. Moreover, the 'field profiles' provided relative *luminescence stratigraphies* on which to pin the temporal sequence of construction of the bank, and comment on the later site formation processes. Importantly, it provided a rapid and effective means of distinguishing between the substrate and bank deposits, permitting targeted and strategic sampling for dating.

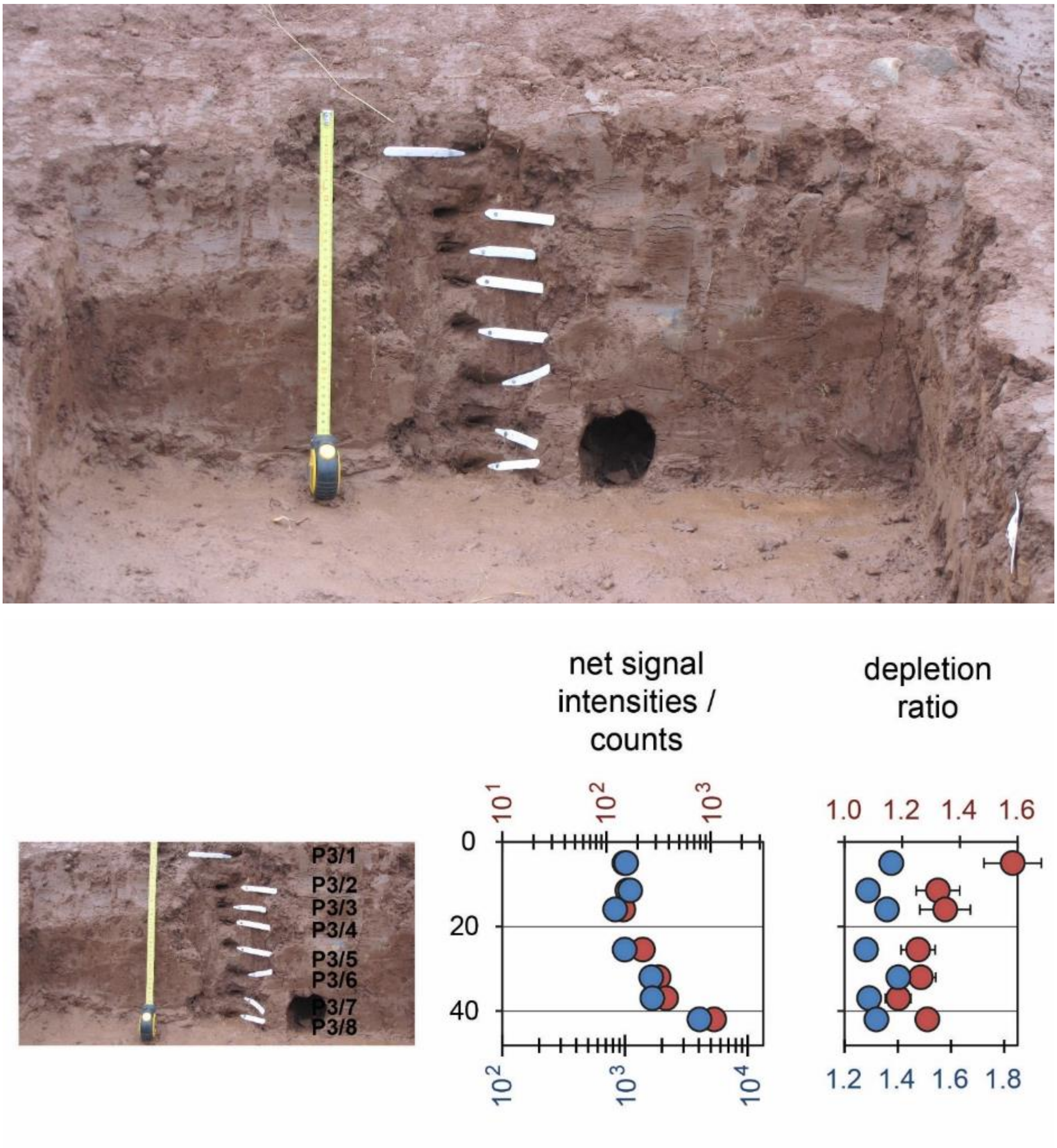
In conclusion, this exploratory investigation of field screening at Oldbury using portable OSL equipment, has produced initial interesting results - in differentiating between the buried soils, old land surface(s) and bank deposits, it is possible to develop a narrative on the construction of the bank from the soils. Having established that the sediment stratigraphies sampled here have promising luminescence behaviour, and are amenable to OSL dating, we recommend a further programme of laboratory analyses. First, calibrated luminescence screening measurements could be undertaken on a subset of the profiling samples, which would allow a preliminary assessment of luminescence sensitivities and stored dose values. Then, more formal quantitative quartz SAR OSL analyses could be undertaken on the selected dating samples, including a date for the old landsurface and buried soil beneath the rampart bank, providing the first chronology for the Oldbury Iron-Age hillfort.



Appendix figure 2: Luminescence-depth profiles for the sediment stratigraphy sampled in profile 1. Key as follows (here, and elsewhere) – Red circles, IRSL; Blue circles, OSL



Appendix figure 3: Luminescence-depth profiles for the sediment stratigraphy sampled in profile 2

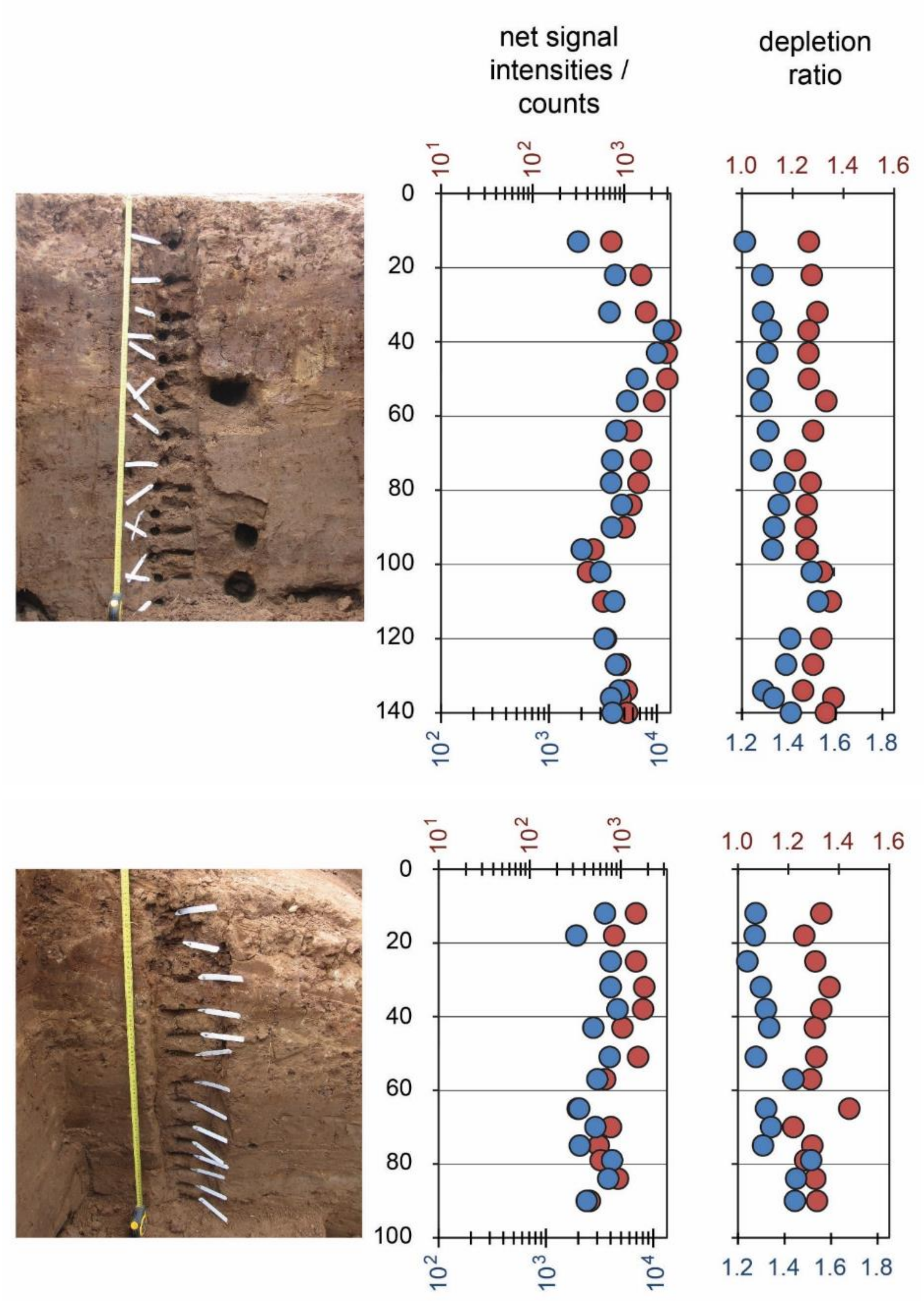


Appendix figure 4: Luminescence-depth profiles for the sediment stratigraphy sampled in profile 3

Appendix figure 5: Profile 4 (left-hand column P4/1-/20; right-hand column P4/21-/34)

Appendix figure 6: Samples P4/1 to P4/20

Appendix figure 7: Samples P4/21 to P4/34



Appendix figure 8: Luminescence-depth profiles for the sediment stratigraphies sampled in profiles 4A (top) and 4B (bottom)

Appendix table 33: Luminescence screening measurements made using a SUERC portable OSL reader

		IRSL		OSL		
Field no.	Depth /cm	Net signal intensities /counts	Depletion ratio	Net signal intensities /counts	Depletion ratio	IRSL : OSL ratio
P1/1	5.5	185 ± 64	1.31 ± 0.14	2996 ± 85	1.84 ± 0.08	0.0617 ± 0.0215
P1/2	13	194 ± 64	0.26 ± 0.03	3734 ± 89	1.63 ± 0.06	0.0520 ± 0.0172
P1/3	22	1719 ± 77	1.42 ± 0.08	12511 ± 130	1.51 ± 0.03	0.1374 ± 0.0063
P1/4	30	865 ± 67	1.10 ± 0.09	7411 ± 106	1.44 ± 0.04	0.1167 ± 0.0091
P1/5	36	1113 ± 73	1.17 ± 0.08	8306 ± 112	1.41 ± 0.03	0.1340 ± 0.0090
P2/1	6	506 ± 62	1.42 ± 0.13	4586 ± 90	1.47 ± 0.05	0.1103 ± 0.0137
P2/2	12	687 ± 64	1.28 ± 0.10	5255 ± 94	1.32 ± 0.04	0.1307 ± 0.0125
P2/3	16	4865 ± 93	1.32 ± 0.04	31321 ± 190	1.37 ± 0.02	0.1553 ± 0.0031
P2/4	25	3119 ± 85	1.37 ± 0.05	16248 ± 144	1.33 ± 0.02	0.1920 ± 0.0055
P2/5	31.5	16634 ± 142	1.29 ± 0.02	51914 ± 238	1.30 ± 0.01	0.3204 ± 0.0031
P2/6	36	1312 ± 71	1.30 ± 0.08	7431 ± 107	1.38 ± 0.03	0.1766 ± 0.0099
P2/7	42	1161 ± 69	1.39 ± 0.09	7221 ± 104	1.40 ± 0.04	0.1608 ± 0.0098
P3/1	5	1493 ± 70	1.58 ± 0.10	10199 ± 117	1.38 ± 0.03	0.1464 ± 0.0071
P3/2	11.5	1599 ± 74	1.32 ± 0.08	10981 ± 122	1.29 ± 0.03	0.1456 ± 0.0069
P3/3	16	1461 ± 68	1.35 ± 0.09	8314 ± 108	1.36 ± 0.03	0.1757 ± 0.0084
P3/5	25.5	2244 ± 71	1.26 ± 0.06	9936 ± 115	1.28 ± 0.03	0.2258 ± 0.0076
P3/6	32	3182 ± 81	1.26 ± 0.05	16355 ± 141	1.4 ± 0.02	0.1946 ± 0.0052
P3/7	37	3752 ± 84	1.19 ± 0.04	16703 ± 143	1.29 ± 0.02	0.2246 ± 0.0054
P3/8	42	10867 ± 120	1.29 ± 0.03	40425 ± 212	1.32 ± 0.01	0.2688 ± 0.0033
P4/1	13	7251 ± 101	1.26 ± 0.03	18661 ± 148	1.21 ± 0.02	0.3886 ± 0.0062
P4/2	22	15330 ± 135	1.28 ± 0.02	41079 ± 212	1.29 ± 0.01	0.3732 ± 0.0038
P4/3	32	17491 ± 143	1.30 ± 0.02	36367 ± 199	1.29 ± 0.01	0.4810 ± 0.0047
P4/4	37	32241 ± 188	1.26 ± 0.01	115358 ± 347	1.32 ± 0.01	0.2795 ± 0.0018
P4/5	43	29215 ± 180	1.26 ± 0.02	100163 ± 324	1.31 ± 0.01	0.2917 ± 0.0020
P4/6	50	29788 ± 181	1.26 ± 0.02	65350 ± 264	1.27 ± 0.01	0.4558 ± 0.0033
P4/7	56	21392 ± 158	1.33 ± 0.02	53178 ± 238	1.28 ± 0.01	0.4023 ± 0.0035
P4/8	64	12011 ± 124	1.28 ± 0.02	42304 ± 214	1.31 ± 0.01	0.2839 ± 0.0033
P4/9	72	15320 ± 136	1.21 ± 0.02	38500 ± 201	1.28 ± 0.01	0.3979 ± 0.0041
P4/10	78	14439 ± 132	1.27 ± 0.02	37649 ± 203	1.38 ± 0.01	0.3835 ± 0.0041
P4/11	84	12058 ± 122	1.26 ± 0.02	47286 ± 226	1.36 ± 0.01	0.2550 ± 0.0029
P4/12	90	10129 ± 113	1.25 ± 0.03	38197 ± 203	1.34 ± 0.01	0.2652 ± 0.0033
P4/13	96	4636 ± 90	1.26 ± 0.04	20169 ± 154	1.33 ± 0.02	0.2299 ± 0.0048
P4/14	102	4038 ± 82	1.32 ± 0.05	29947 ± 182	1.50 ± 0.02	0.1348 ± 0.0029
P4/15	110	5942 ± 95	1.35 ± 0.04	40031 ± 208	1.53 ± 0.02	0.1484 ± 0.0025
P4/16	120	6321 ± 96	1.31 ± 0.04	32604 ± 189	1.40 ± 0.02	0.1939 ± 0.0032
P4/17	127	9000 ± 111	1.28 ± 0.03	41891 ± 213	1.39 ± 0.01	0.2148 ± 0.0029
P4/18	134	10688 ± 117	1.24 ± 0.03	44734 ± 219	1.29 ± 0.01	0.2389 ± 0.0029
P4/19	136	9178 ± 116	1.36 ± 0.03	37660 ± 206	1.34 ± 0.01	0.2437 ± 0.0034
P4/20	140	10816 ± 122	1.33 ± 0.03	38866 ± 209	1.41 ± 0.01	0.2783 ± 0.0035

		IRSL		OSL		
Field no.	Depth /cm	Net signal intensities /counts	Depletion ratio	Net signal intensities /counts	Depletion ratio	IRSL : OSL ratio
P4/21	12	14707 ± 135	1.33 ± 0.02	35449 ± 196	1.28 ± 0.01	0.4149 ± 0.0044
P4/22	18	8505 ± 104	1.26 ± 0.03	19174 ± 147	1.27 ± 0.02	0.4436 ± 0.0064
P4/23	25	14709 ± 132	1.31 ± 0.02	40041 ± 207	1.24 ± 0.01	0.3673 ± 0.0038
P4/24	32	18210 ± 143	1.36 ± 0.02	40038 ± 207	1.30 ± 0.01	0.4548 ± 0.0043
P4/25	38	17652 ± 141	1.33 ± 0.02	46219 ± 221	1.32 ± 0.01	0.3819 ± 0.0036
P4/26	43	10485 ± 114	1.30 ± 0.03	27634 ± 173	1.33 ± 0.02	0.3794 ± 0.0048
P4/27	51	15560 ± 133	1.31 ± 0.02	39105 ± 204	1.28 ± 0.01	0.3979 ± 0.0040
P4/28	57	6775 ± 94	1.29 ± 0.03	30096 ± 181	1.44 ± 0.02	0.2251 ± 0.0034
P4/29	65	3383 ± 84	1.44 ± 0.05	20285 ± 151	1.32 ± 0.02	0.1668 ± 0.0043
P4/30	70	7825 ± 100	1.22 ± 0.03	28824 ± 176	1.34 ± 0.02	0.2715 ± 0.0039
P4/31	75	5763 ± 88	1.30 ± 0.04	20686 ± 151	1.31 ± 0.02	0.2786 ± 0.0047
P4/32	79	6038 ± 91	1.27 ± 0.03	41195 ± 210	1.51 ± 0.02	0.1466 ± 0.0023
P4/33	84	9363 ± 109	1.31 ± 0.03	37997 ± 201	1.45 ± 0.02	0.2464 ± 0.0031
P4/34	90	4591 ± 86	1.31 ± 0.04	23916 ± 163	1.44 ± 0.02	0.1920 ± 0.0038

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Appendix H: OSL dating report

Tim Kinnaird, with Stuart Bradley, Chris Casswell and Manda Forster

Introduction

This report describes the 2nd phase of OSL investigations on the Toot, Oldbury on Severn, detailing OSL profiling and sampling, the progression to analytical work, and subsequently, the dating of four sediment samples to constrain the construction of the rampart bank and later site formation processes.

Aims and objectives

The aim of these investigations is to date the construction of the rampart bank at the lowland Hillfort at Oldbury on Severn, through characterising the luminescence stratigraphies and generating sediment chronologies for the rampart bank and underlying soils / sediments.

Sampling

Tim Kinnaird visited DigVentures' excavation on the Toot, Oldbury on Severn, on the 27th and 28th of July 2017, with the aim of characterising the luminescence stratigraphies associated with the bank and ditch of an Iron Age Hillfort, and retrieving sediment samples from key stratigraphic and archaeological contexts from sediments in and surrounding this monument (Appendix figure 9).

The details of the field campaign are documented elsewhere (see field report of Kinnaird et al.). In brief, OSL sampling and field survey revealed:

- the presence of a buried palaeo-surface of some kind at c. 80 to 90 cm depth beneath the rampart, sloping at a slight angle into the ditch;
- a potentially intact substrate/soil beneath this surface; and
- above this, c. 65 to 75 cm of re-deposited – potentially placed – clays and sands.

This information was used to guide the positioning of the sediment samples taken for subsequent laboratory analysis, in the first instance, calibrated luminescence screening and characterisation (Appendix table 34), then conventional OSL dating (Appendix table 35). The luminescence stratigraphies generated in the field are reproduced in Appendix figures 2 to 8. *In-situ* measurements of the gamma dose rate were made at each of the dating positions using a MicroNomad with a 3x3" NaI Detector (Field Gamma Spectrometry, FGS).

Appendix table 34 provides a list of the samples taken forward to laboratory screening and characterisation, together with a brief description of their context and archaeological significance. Appendix table 35 provides a list of the samples taken forward to quartz SAR OSL dating.

Appendix table 34: Descriptions of sediment samples selected for laboratory screening and characterisation

Field no.	Lab code	Depth /cm	Lithology	Context	Archaeological significance
P4/1	CERSA78A	13	'hard' clay capping	16002	A horizon / topsoil
P4/2	CERSA78B	22		16002	
P4/3	CERSA78C	32	compacted brown clays	16002	bank deposits – stratigraphic trends may elucidate on construction methods, whether rampart construction was single or multi-phase
P4/4	CERSA78D	37		16002	
P4/5	CERSA78E	43		16002	
P4/6	CERSA78F	50		16002	
P4/7	CERSA78G	56	brown sands	16004	
P4/8	CERSA78H	64		16004	
P4/9	CERSA78I	72		16004	
P4/10	CERSA78J	78		16004	
P4/11	CERSA78K	84		16004	
P4/12	CERSA78L	90		16004	
P4/13	CERSA78M	96	red-orange sands	16008	prominent lithological break – interpreted as a buried palaeo-surface
P4/14	CERSA78N	102	grey-brown sandy loam	16003	if soil / substrate intact beneath buried surface - TPQ for construction of bank
P4/15	CERSA78O	110		16003	
P4/16	CERSA78P	120	brown clayey sands	16003	early soil formation processes – stratigraphic trends may elucidate on site formation processes prior to construction of bank
P4/17	CERSA78Q	127		16003	
P4/18	CERSA78R	134		16003	
P4/19	CERSA78S	136		16003	
P4/20	CERSA78T	142		16003	

Appendix table 35: Description of sediment samples selected for OSL dating

Field no.	Sample no.	Lab code	Depth /cm	Lithology	Context	Archaeological significance
OSL1	SAM11	CERSA79	51	light brown sands	16004	'top' of inverted sequence
OSL2	SAM12	CERSA80	88	brown silt loam	16004	'base' of inverted sequence
OSL3	SAM13	CERSA81	102	grey-brown sandy loam	16003	TAQ for age of buried surface
OSL4	SAM14	CERSA82	120	brown sands	16003	TPQ for age of buried surface

Sample preparation

Sample preparation and equivalent dose determinations were undertaken under safe light conditions at the luminescence laboratories at the School of Earth and Environmental Sciences, University of St Andrews. Dose rate determinations were made at the Environmental Radioactivity Laboratory (ERL) at the School of Biological and Earth Sciences, University of Stirling.

Mineral preparation

Standard mineral preparation procedures as routinely used in OSL dating were used to extract sand-sized quartz from each sample (cf. Kinnaird et al., 2017).

90-250 µm quartz was extracted from each profiling sample selected for laboratory characterisation (profile 4A), then treated in 1M hydrochloric acid (HCl) for 10 mins, 40% hydrofluoric acid (HF) for 40 mins and 1M HCl for 10 minutes. The 40% HF-etched, 90-250 µm fractions were dispensed to 10mm stainless steel disc in duplicate for apparent dose and sensitivity determinations.

For the four sediment samples selected for quartz SAR OSL dating, the light-exposed outer edges of the tube samples were removed, and retained for use in determining dose rates (see below). Quartz was extracted from the portion of each sample which had not been exposed to sunlight since burial. From each sample, the 90-250 µm polymineral fractions was extracted, and subsequently treated in 1M HCl, 40% HF for 40 mins and 1M HCl for a further 10 mins. The HF-etched fractions were then centrifuged in LST heavy liquids at concentrations of 2.64 and 2.74 gcm-3, to obtain concentrates of feldspar (< 2.64 gcm-3) and quartz (2.64-2.74 gcm-3). The quartz concentrates were re-sieved at 150 µm, and both fractions dispensed to stainless steel discs for equivalent dose determination in sets of c. 32 aliquots each.

Preparation of samples for HRGS

The light-exposed materials, taken from the tube ends of each dating sample, were dried to a constant weight in an oven set at 50°C. Sub-quantities of the dried sediment, weighing approximately 170-180 g, were taken and ground by hand to a fine powder using a pester and mortar. These materials were then transferred to the Environmental Radioactivity Laboratories at Stirling for high-resolution gamma spectrometry (HRGS). These materials were used to fill 75ml high-density plastic plots for gamma spectrometry; approximately 110 to 120 g of sediment was taken from each sample. The samples were initially counted unsealed, so that preliminary results could be reported to the client; the pots were then subsequently sealed with epoxy resin and placed in storage for four weeks to allow equilibrium of the ^{222}Rn daughters.

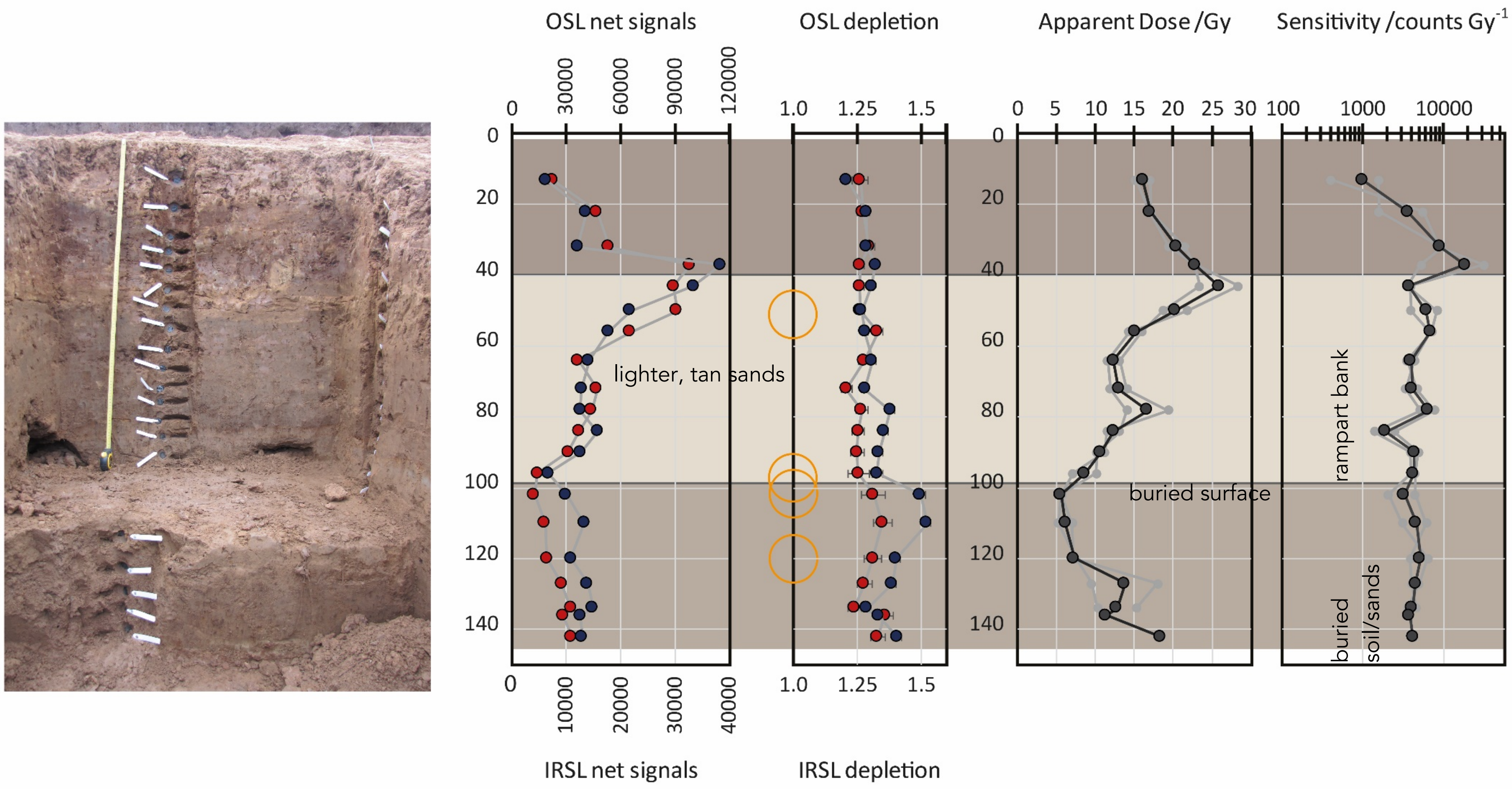
Luminescence stratigraphies

The luminescence stratigraphies generated during fieldwork (and reported in the interim report of Kinnaird et al.) were informative, providing the first temporal and spatial frameworks to interpret the constructional sequence of the rampart bank and ditch, and in identifying the key cultural and stratigraphic horizons. However, it must be recognised that the signal-depth progressions may also be influenced, or controlled, by lateral and vertical variations in luminescence sensitivity (a measure of light emitted per unit dose). The signal-depth progressions will also respond to variations in environmental dose rate. Therefore, to assess sensitivity distributions and to provide the first indication of the magnitude and range of apparent dose (which scale to age with environmental dose rates), selected samples were taken forward to luminescence screening and characterisation in the laboratory. The 20 samples from profile 4A were selected for analysis.

Luminescence sensitivities (photon counts per Gy; Appendix figure 9) and apparent dose (Gy; Appendix figure 9) were evaluated on paired aliquots of HF-etched quartz, using procedures modified from Burbidge et al. (2007), Sanderson et al. (2003) and Kinnaird et al. (2017). The data are plotted alongside the field profile in Appendix figure 9, and tabulated in Appendix table 36.

The stratigraphic trends observed in the stored dose-depth profile reproduce those observed in the field-profiling dataset, confirming: 1. the presence of the buried surface at depth, 2. the intact substrate succession below this; and 3. that the overlying bank deposists are largely re-deposited materials. The materials selected for OSL dating should:

- constrain the age of the buried surface (CERSA 82 and 81, respectively), and therefore, by association date construction of the rampart; and
- provide an insight into the later site formation processes, including insights on the growth / any modification of the bank i.e. was it deposited in a single event or over multiple phases (CERSA 80 and 79, respectively).



Appendix figure 9: Field and laboratory profiles through the rampart bank, across the buried surface, and into the intact substrate succession.

Appendix table 36: Calibrated luminescence screening measurements †mean of six aliquots

Lab code	Depth / cm	Aliquot 1 Apparent dose / Gy	Aliquot 2	Aliquot 1 Sensitivity / counts Gy^{-1}	Aliquot 2		Mean / Gy	/counts Gy^{-1}	Equivalent to
CERSA78A	13	17.08 ± 0.84	15.17 ± 2.04	1550 ± 40	400 ± 20		16.13 ± 0.96	980 ± 570	P4/1
CERSA78B	22	17.17 ± 0.78	16.91 ± 0.82	1580 ± 40	5540 ± 70		17.04 ± 0.13	3560 ± 1980	P4/2
CERSA78C	32	21.53 ± 0.8	19.50 ± 0.75	9350 ± 100	8750 ± 90		20.51 ± 1.01	9050 ± 300	P4/3
CERSA78D	37	22.69 ± 0.86	23.00 ± 0.60	5280 ± 70	31420 ± 180		22.85 ± 0.15	18350 ± 13070	P4/4
CERSA78E	43	23.40 ± 0.81	28.36 ± 1.00	3570 ± 60	3880 ± 60		25.88 ± 2.48	3730 ± 160	P4/5
CERSA78F	50	18.72 ± 0.57	21.76 ± 0.92	8300 ± 90	3940 ± 60		20.24 ± 1.52	6120 ± 2180	P4/6
CERSA78G	56	15.98 ± 0.58	14.34 ± 0.39	7150 ± 80	6650 ± 80		15.16 ± 0.82	6900 ± 250	P4/7
CERSA78H	64	13.15 ± 0.54	11.58 ± 0.50	3510 ± 60	4340 ± 70		12.36 ± 0.78	3920 ± 420	P4/8
CERSA78I	72	14.06 ± 0.51	11.95 ± 0.60	4720 ± 70	3420 ± 60		13.01 ± 1.06	4070 ± 650	P4/9
CERSA78J	78	19.34 ± 0.55	14.09 ± 0.52	7720 ± 90	5150 ± 70		16.71 ± 2.63	6430 ± 1290	P4/10
CERSA78K	84	11.48 ± 0.46	13.17 ± 0.75	2460 ± 50	1380 ± 40		12.32 ± 0.85	1920 ± 540	P4/11
CERSA78L	90	11.28 ± 0.36	10.25 ± 0.39	4880 ± 70	3870 ± 60		10.76 ± 0.52	4370 ± 510	P4/12
CERSA78M	96	7.14 ± 0.54	10.15 ± 0.52	4450 ± 70	4010 ± 60		8.65 ± 1.51	4230 ± 220	P4/13
CERSA78N	102	5.58 ± 0.48	5.65 ± 0.32	4420 ± 70	2060 ± 50		5.62 ± 0.03	3240 ± 1180	P4/14
CERSA78O	110	5.29 ± 0.44	7.03 ± 0.44	6050 ± 80	3070 ± 60		6.16 ± 0.87	4560 ± 1490	P4/15
CERSA78P	120	7.52 ± 0.46	7.14 ± 0.59	3880 ± 60	6360 ± 80		7.33 ± 0.19	5120 ± 1240	P4/16
CERSA78Q	127	9.58 ± 0.49	18.02 ± 0.67	4020 ± 60	4910 ± 70		13.8 ± 4.22	4470 ± 440	P4/17
CERSA78R	134	10.29 ± 0.53	15.25 ± 0.69	4600 ± 70	3550 ± 60		12.77 ± 2.48	4070 ± 520	P4/18
CERSA78S†	136	11.43 ± 0.70	-	3820 ± 1130	-		11.43 ± 0.70	3820 ± 1130	P4/19
CERSA78T†	142	18.35 ± 0.72	-	4150 ± 320	-		18.35 ± 0.72	4150 ± 320	P4/20

Equivalent dose determinations

All OSL measurements were carried out using Risø TL/OSL DA-15 automated dating systems, each equipped with a $^{90}Sr/^{90}Y$ β-source for irradiation, blue LEDs emitting around 470 nm and infrared (laser) diodes emitting around 830 nm for optical stimulation. OSL was detected through 7.5 mm of Huoya U-340 filter and detected with a 9635QA photomultiplier tube. OSL was measured at 125°C for 60 s. The OSL signals, *Ln* and *Lx*, used for equivalent dose (*De*) determinations were obtained by integrating the OSL counts in the first 4.8 s and subtracting an equivalent signal taken from the last 9.6 s (see below).

De determinations were determined on sets of 64 aliquots using a single-aliquot regenerative dose (SAR) method (Kinnaird et al., 2017; Murray and Wintle, 2000), which allows for an independent estimate of *De* to be generated for each aliquot measured. The SAR technique involves making a series of paired measurements of OSL intensity - the *Ln* and *Lx* outlined above, and the response to a fixed test dose, *Tn* and *Tx*. Each measurement is standardised to the test dose response determined immediately after its readout, to compensate for observed changes in sensitivity during the laboratory measurement sequence. *De* values are then estimated using the corrected OSL intensities *Ln/Tn* and *Lx/Tx* and the interpolated dose-response curve.

This was implemented here, using five regenerative doses (nominal doses of 1, 2.5, 5, 10 and 30 Gy), with additional cycles for zero dose, repeat or 'recycling' dose (2.5 Gy) and IRSL dose (2.5 Gy). The zero dose point is used to monitor 'recuperation', thermally induced charge transfer during the irradiation and preheating cycle. The repeat dose, a repeat of the initial regeneration dose, is used to calculate the 'recycling ratio', a test of the internal consistency of the growth curve. The IRSL response check is included to assess the magnitude of non-quartz signals. To ensure that there was no dependency of *De* or sensitivity on preheat conditions, five preheat temperatures from 220 to 260°C in 10°C increments, were explored.

Data reduction and *De* determinations were made in Luminescence Analyst v.4.31.9. Individual decay curves were scrutinised for shape and consistency. Dose response curves were fitted with an *exponential* function, with the growth curve *fitted through zero* and the *repeat recycling points.*

Representative OSL decay curves, for both the natural and regenerated signals, are shown in appendix C.

Aliquots were rejected from further analysis if they failed sensitivity checks (based on test dose response), SAR acceptance criteria checks, or had significant IRSL response coupled with anomalous luminescence behaviour (Appendix table 37). Aliquots with: 1. a recycling ratio outside the range of 1.0±0.1; 2. recuperation values in excess of 5%; 3. a poor dose response curve, precludes calculation of a meaningful De; 4. a high IRSL response, coupled with anomalous luminescence behaviour, were discarded for age calculation.

Appendix table 37: SAR acceptance criteria

Lab code	Riso 2 Sensitivity / counts Gy^{-1}	Recuperation / %	Recycling ratio	Riso3 Sensitivity / counts Gy^{-1}	Recuperation / %	Recycling ratio
CERSA79	1730 ±260	2.5 ± 4.9	0.97 ± 0.06 (0.02)	1100 ±260	3.3 ± 2.5	1.01 ± 0.08 (0.03)
CERSA80	1660 ±250	0.8 ± 1.0	1.02 ± 0.09 (0.02)	660 ±250	3.3 ± 2.7	1.00 ± 0.04 (0.01)
CERSA81	1400 ±130	3.0 ± 4.7	0.99 ± 0.05 (0.01)	470 ±130	3.7 ± 3.8	1.01 ± 0.06 (0.01)
CERSA82	1540 ±160	1.2 ± 1.0	1.02 ± 0.03 (0.01)	590 ± 160	3.0 ± 1.9	1.01 ± 0.05 (0.01)

There was no evidence of significant differences in normalised OSL ratios (both in natural and regenerated dose points) between subsets of discs pre-heated at different temperatures; furthermore, no dependence on preheat was noted for luminescence sensitivity or IRSL response.

The distributions in equivalent dose values, for those aliquots which satisfied the SAR selection criteria, were examined using Kernel Density Estimate (KDE) plots and Abanico plotting methods (Appendix D; after Dietze et al., 2013). The four samples are characterised by a range of distributions, reflecting their depositional setting and position in the stratigraphy: the samples taken from the bank deposits show the largest spread in *De,* reflecting variable bleaching at deposition, whereas the sediment samples taken to constrain the age of the buried surface (and thereby date construction) show the tightest distributions (Appendix table 38). The weighted mean was used in the assimilation of the *De* values to calculate the apparent dose.

Appendix table 38: Comments on equivalent dose distributions

Lab code	Comments on distribution	Weighted means 150-250 µm	Weighted means 90-150 µm
CERSA79	broad distribution ranging from 8.5 to c. 45.0 Gy with no prominent population; low-dose population at 8.5 Gy, with the expected $\dot{D}_{ex}$, may suggest derivation in the 2nd to 3rd century BC	10.7 ± 1.69 (0.56)	14.56 ± 2.42 (0.6)
CERSA80	moderately broad distribution ranging from 7.2 Gy to 12.6 Gy, with some high-dose outliers up to 30Gy; dominant population centred at weighted mean 9.7 to 9.2 Gy; low-dose component may suggest derivation in the 2nd to 3rd century BC	9.78 ± 0.44 (0.13)	9.16 ± 0.87 (0.16)
CERSA81	moderately tight distribution ranging between 4.2 and 9.2 Gy, with a high dose outlier at 14Gy; dominant population at centred at weighted mean 6.3 to 6.6 Gy	6.31 ± 0.33 (0.08)	6.59 ± 0.4 (0.12)
CERSA82	tight distribution ranging from 5.2 to 9.9 Gy, with a dominant population centred at the weighted mean 6.6 Gy	6.62 ± 0.21 (0.06)	6.63 ± 0.18 (0.06)

Environmental dose rate determinations

The effective environmental dose rate to HF-etched quartz grains, $\dot{D}_{ex}$ consists of external gamma, $\dot{D}_{\gamma}$ beta, $\dot{D}_{\beta}$ and cosmic ray $\dot{D}_{c}$ contributions. $\dot{D}_{\alpha}$, $\dot{D}_{\gamma}$, $\dot{D}_{\beta}$ dose rates originate from naturally occurring radionuclides in the surrounding sediment matrix, including Potassium, *K* Uranium, *U* and Thorium, *Th* attenuated due to grain size and sediment-matrix water content. An internal dose rate, $\dot{D}_{in}$ due to K, U and Th inclusions within quartz, may add a negligible contribution to the total effective dose. The contribution from the cosmic dose, $\dot{D}_c$ is a function of geographic location (altitude, longitude and latitude) and burial depth, and is here calculated from Prescott and Hutton (1994).

Concentrations of K, U and Th were obtained from high-resolution gamma spectrometry (HRGS). All sample handling, processing and analysis were undertaken in accordance, and in compliance with ERL protocols LS03.1, 03.2 & 03.6 and LS08. The samples were sealed for four weeks prior to final counting. HRGS measurements were performed on a High Purity Germanium (HPGE) detector. Standard laboratory efficiency calibrations were used, derived from GE Heathcare Ltd QCY48 Mixed Radionuclide Spike and DKD RBZ-B44 ^{210}Pb spike. All absolute efficiency calibrations were corrected for variations in sample density and matrix. The decay reference date was the 27th June 2017.

Nuclide specific estimates for K, and the U and Th series were to used to estimate mean activity concentrations (Bq kg^{-1}) and elemental concentrations (% K and ppm U and Th) for the parent activity (Appendix table 39). These data were used to determine infinite matrix doses for α, γ and β radiation (Appendix table 40), using the conversion factors of Guérin et al. (2011), and grain-size attenuation factors of Mejdahl (1979). External $\dot{D}_\alpha$ dose rates were ignored as the α irradiated portion of quartz was removed by HF-etching.

Appendix table 39: Mean activity concentrations and elemental concentrations

CERSA	Mean activity concentrations / Bq kg^{-1}			Equivalent concentrations		
no.	K	U	Th	K / %	U / ppm	Th /ppm
79	920 ± 80	23.4 ± 2.2	16.1 ± 1.3	2.98 ± 0.26	1.89 ± 0.18	3.97 ± 0.32
80	680 ± 60	18.0 ± 1.6	20.8 ± 1.8	2.21 ± 0.20	1.46 ± 0.13	5.13 ± 0.44
81	650 ± 60	17.6 ± 1.6	12.8 ± 1.2	2.09 ± 0.19	1.42 ± 0.13	3.16 ± 0.28
82	660 ± 60	16.8 ± 1.7	18.4 ± 1.8	2.13 ± 0.20	1.36 ± 0.14	4.52 ± 0.44

Appendix table 40: Infinite matrix dose rates determined from HRGS (dry) and in-situ gamma dose rates measured by FGS (wet)

CERSA	HRGS, Dry / mGy a^{-1}			FGS, wet /
no.	Alpha	Beta	Gamma	mGy a^{-1}
79	8.19 ± 0.54	2.86 ± 0.22	1.14 ± 0.07	1.56 ± 0.01
80	7.84 ± 0.49	2.19 ± 0.17	0.96 ± 0.06	1.49 ± 0.01
81	6.29 ± 0.42	2.03 ± 0.16	0.83 ± 0.05	1.65 ± 0.01
82	7.13 ± 0.50	2.09 ± 0.17	0.90 ± 0.06	1.62 ± 0.01

Fractional, *fw* (ranging between 10 and 16% of dried weight) and saturated, *sw* (< 20 % of dried weight) water contents were determined for all samples in the laboratory, with working values of between 12 and 16 ± 5% adopted for effective dose rate evaluation. The effective dose rates to the 120 quartz fractions are given in Appendix table 41, accounting for the sediment-matrix water content and grain size attenuation factors (the effective beta dose rate to the 200 μm quartz is c. 2% lower than that listed for the 120 μm,) . The effective gamma dose rate was determined from the mean of the HRGS and FGS data, weighted 3:1, between the measured field and determined infinite matrix gamma dose rate.

Appendix table 41: Effective beta and gamma dose rates following water correction

CERSA no.	Assumed water content /%	Effective Beta dose rate[c] / mGy a^{-1}	Effective Gamma dose rate / mGy a^{-1}	Cosmic Dose rate contribution / mGy a^{-1}	working effective dose rate / mGy a^{-1}
79	15 ± 4	2.32 ± 0.16	1.46 ± 0.02	0.20 ± 0.02	3.98 ± 0.16
80	12 ± 3	1.71 ± 0.12	1.34 ± 0.02	0.19 ± 0.02	3.24 ± 0.12
81	13 ± 3	1.58 ± 0.12	1.45 ± 0.02	0.18 ± 0.02	3.21 ± 0.12
82	16 ± 4	1.62 ± 0.12	1.42 ± 0.02	0.18 ± 0.02	3.22 ± 0.12

[c] *Effective beta dose rate combining water content corrections with grain size attenuation factors*

Age determinations

OSL SAR dating utilises extracted quartz from the samples to determine the radiation dose experienced by the sediments since their last zeroing event assumed to be by exposure to light prior to final deposition, the burial dose, *Db.*

To obtain a depositional age, it is necessary to reduce each *De* distribution to a single *Db*. As discussed, the weighted mean across the reduced *De* distribution was used in calculation of the luminescence age. For each sample, the *De* distributions for both the 150-250 µm and 90-150 µm aliquot sets were reduced to a burial dose, which with the corresponding total effective dose rate was used to determine a sediment depositional age (Appendix table 42). For the bank deposits, known to enclose mixed age (and variably bleached) sediments (see field report of Kinnaird et al.), the grain-size fractions, unsurprisingly yield divergent results. Even withstanding this, the equivalent dose distributions provide some insights into the early site formation processes, with the low dose components in both CERSA79 and 80, suggesting some materials sourced from the 2nd and 3rd century BC (given that these sediments were poorly bleached at deposition, this is likely to slightly over-estimate the burial or depositional event).

For the sediments comprising the soil / substrate at depth, believed to be intact and surviving from pre-rampart conclusion (see field report of Kinnaird et al.), it is significant that near concordant age estimates were obtained from both the 150-250 µm and 90-150 µm grain fractions. The individual sediment ages range from 2.0 ± 0.1 to 2.1 ± 0.1 ka (CERSA81 and 82, respectively; Appendix table 42), with statistical combinations suggesting that construction of the rampart (in the position of this trench), and by association the hillfort from the mid 1st century BC (2.06 ± 0.03 ka; Appendix table 43).

Appendix table 42: Sediment OSL SAR ages

CERSA no	Field ID	150-250 µm apparent age /ka	90-150 µm apparent age /ka
79	P4 OSL1	2.74 ± 0.45 (0.18)	3.66 ± 0.63 (0.21)
80	P4 OSL2	3.07 ± 0.18 (0.12)	2.82 ± 0.29 (0.12)
81	P4 OSL3	2.00 ± 0.13 (0.08)	2.05 ± 0.15 (0.09)
82	P4 OSL4	2.09 ± 0.10 (0.08)	2.06 ± 0.09 (0.08)

The combination of these approaches provided the following preliminary chronology: 1. potential 2nd to 3rd century BC cultural activity, as eluded to by the low-dose components identified within the bank deposits (CERSA79 & 80); 2. construction of the rampart bank from the mid 1st century BC, as suggested by the individual quartz SAR OSL ages obtained for the soils / substrate beneath the buried palaeo-surface (CERSA81 & 82), and any of the statistical combinations of these sediment ages (Appendix table 43).

Appendix table 43: statistical combinations of the sediment ages (error stated = weighted standard deviation)

Samples combined	Derived age / weighted mean	Calendar years
81, both fractions	2.02 ± 0.09 ka	10 ± 90 BC
82, both fractions	2.07 ± 0.07 ka	60 ± 70 BC
81 & 82, 150-250μm	2.06 ± 0.08 ka	40 ± 80 BC
81 & 82, 90-150μm	2.06 ± 0.08 ka	40 ± 80 BC
81 & 82, both fractions	2.06 ± 0.08 ka	40 ± 60 BC

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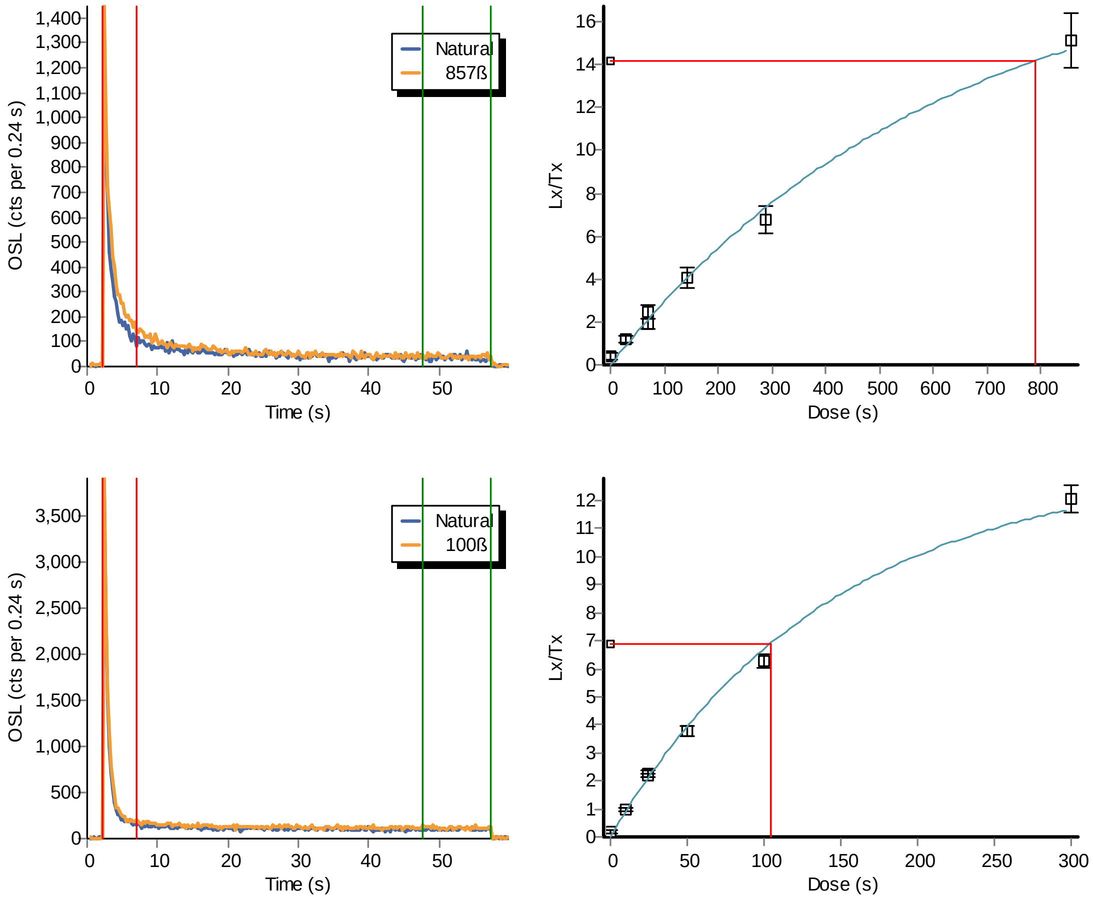
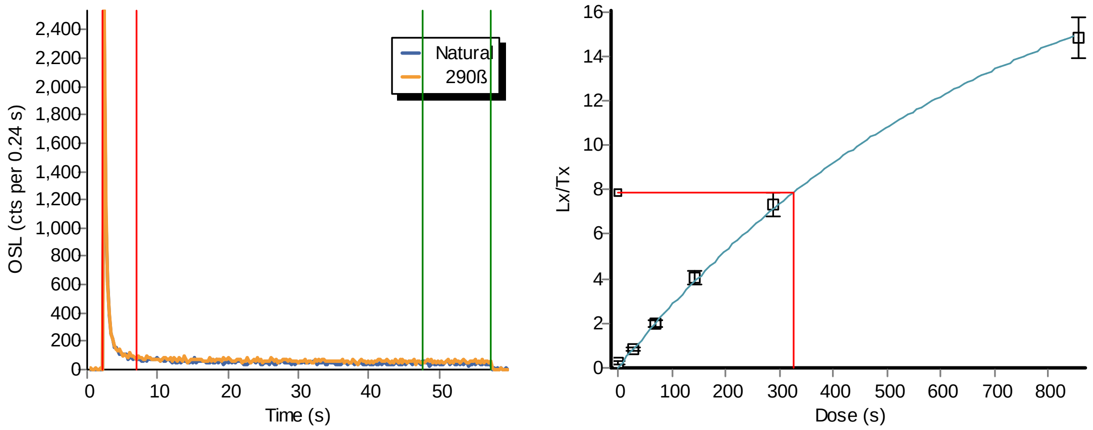
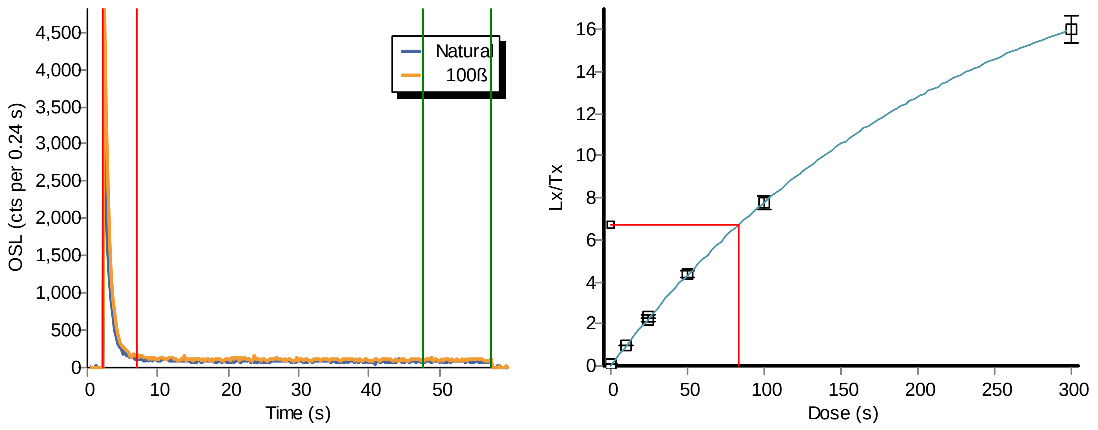
Representative decay and dose response curves

Appendix figure 10: CERSA79 (top: Riso3, aliquot 7; bottom: Riso2, aliquot 2)

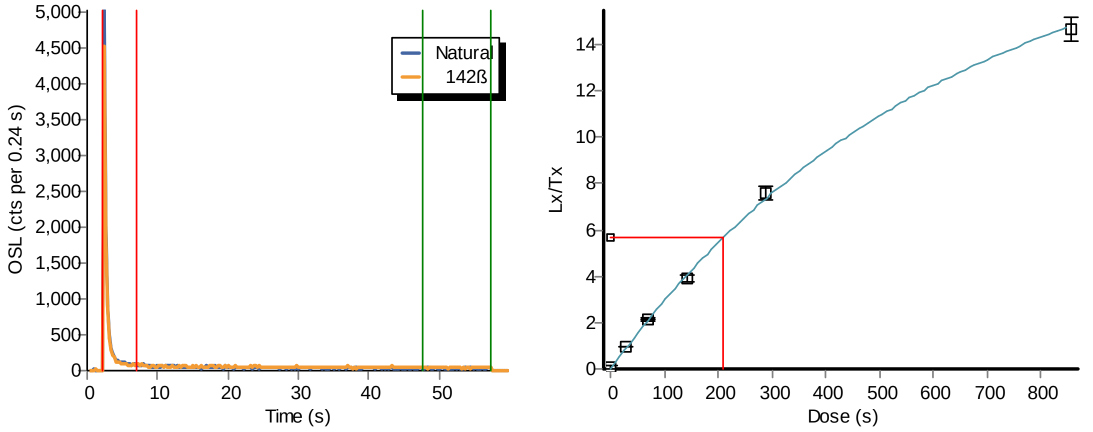


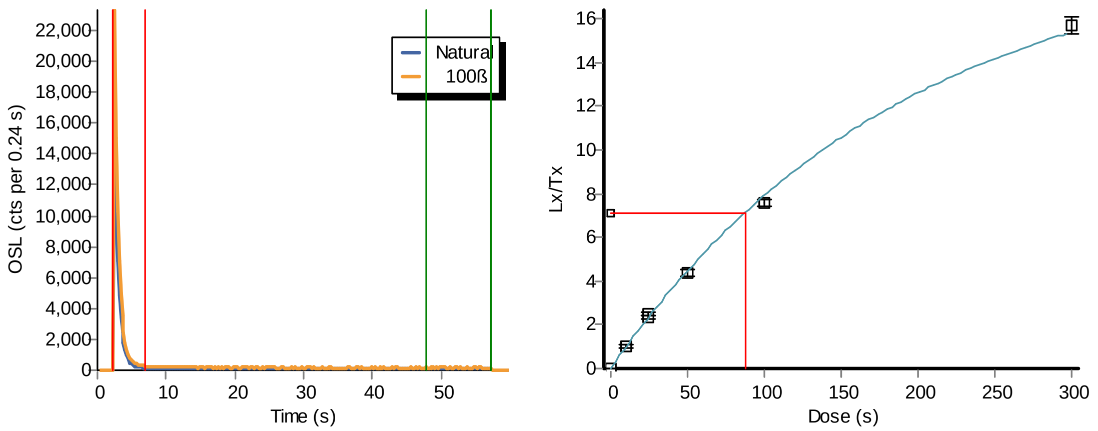
Appendix figure 11: CERSA80 (top: Riso3, aliquot 2; bottom: Riso2, aliquot 2)



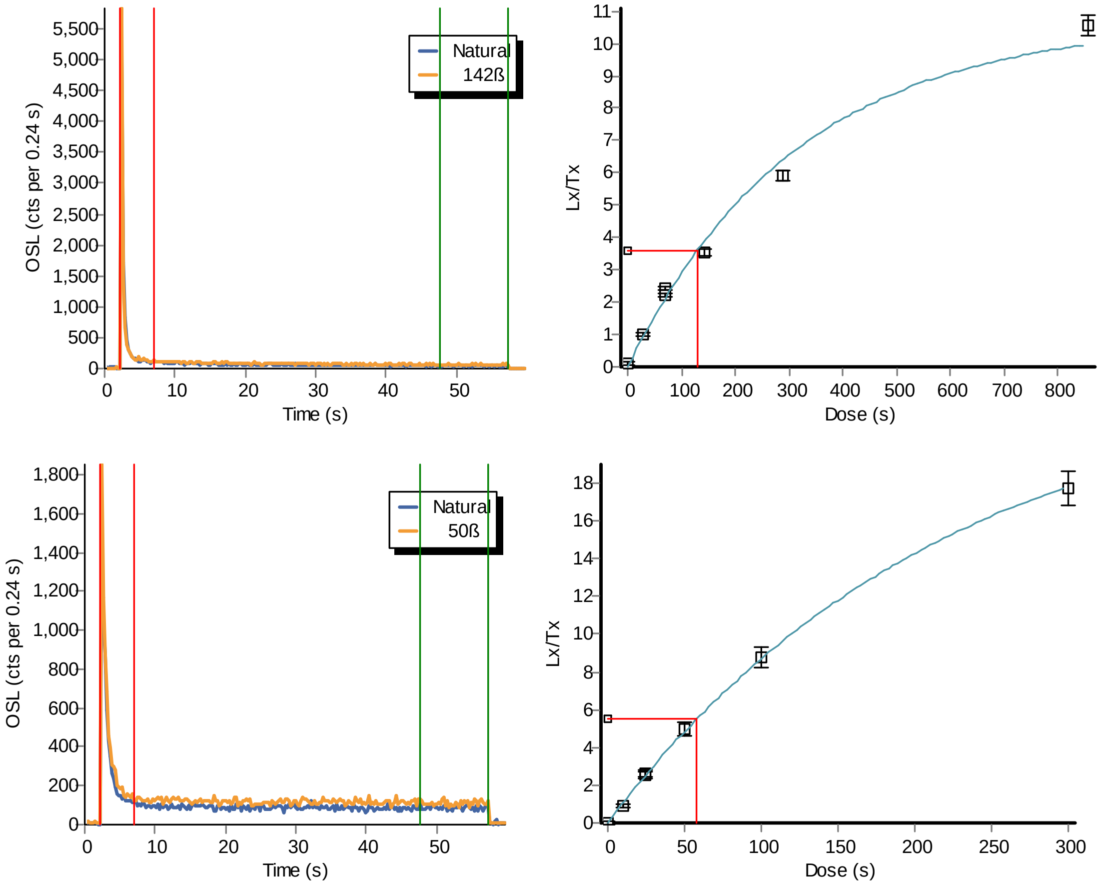


Appendix figure 12: CERSA81 (top: Riso3, aliquot 2; bottom: Riso2, aliquot 2)



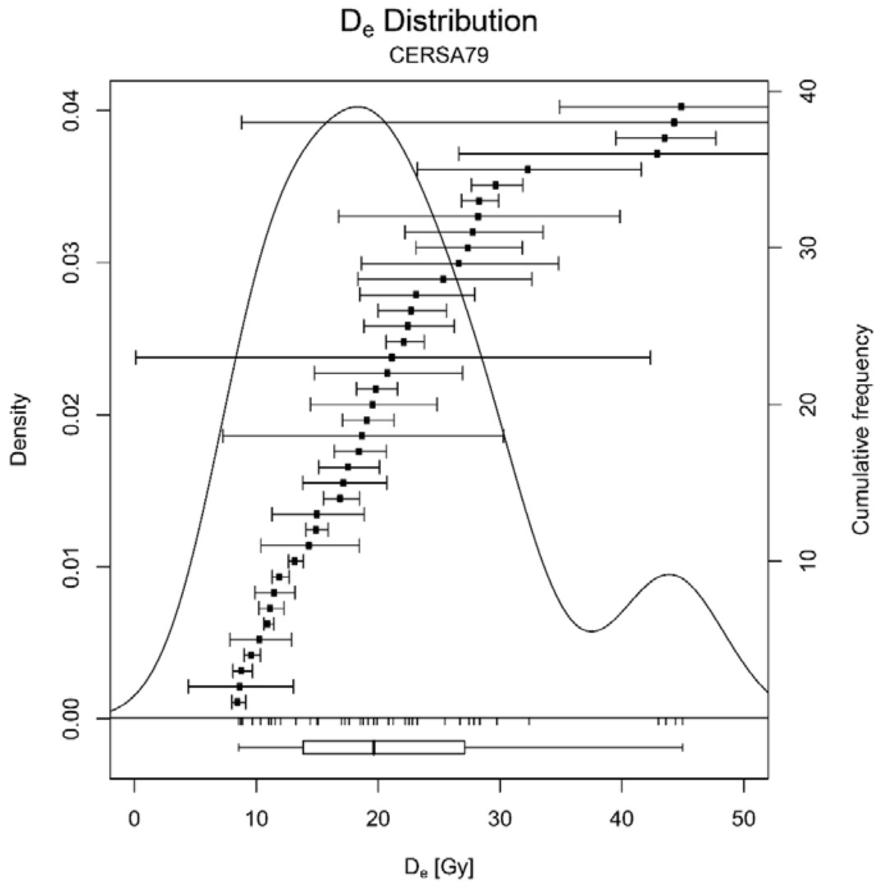


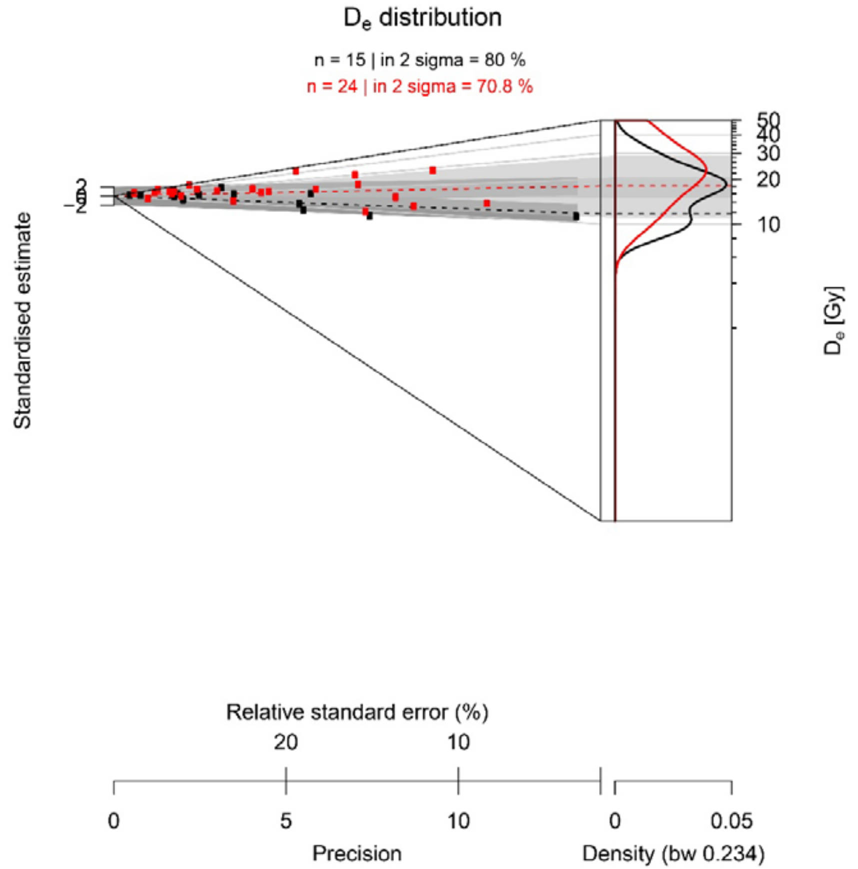
Appendix figure 13: CERSA82 (top: Riso3, aliquot 2; bottom Riso2, aliquot 2)



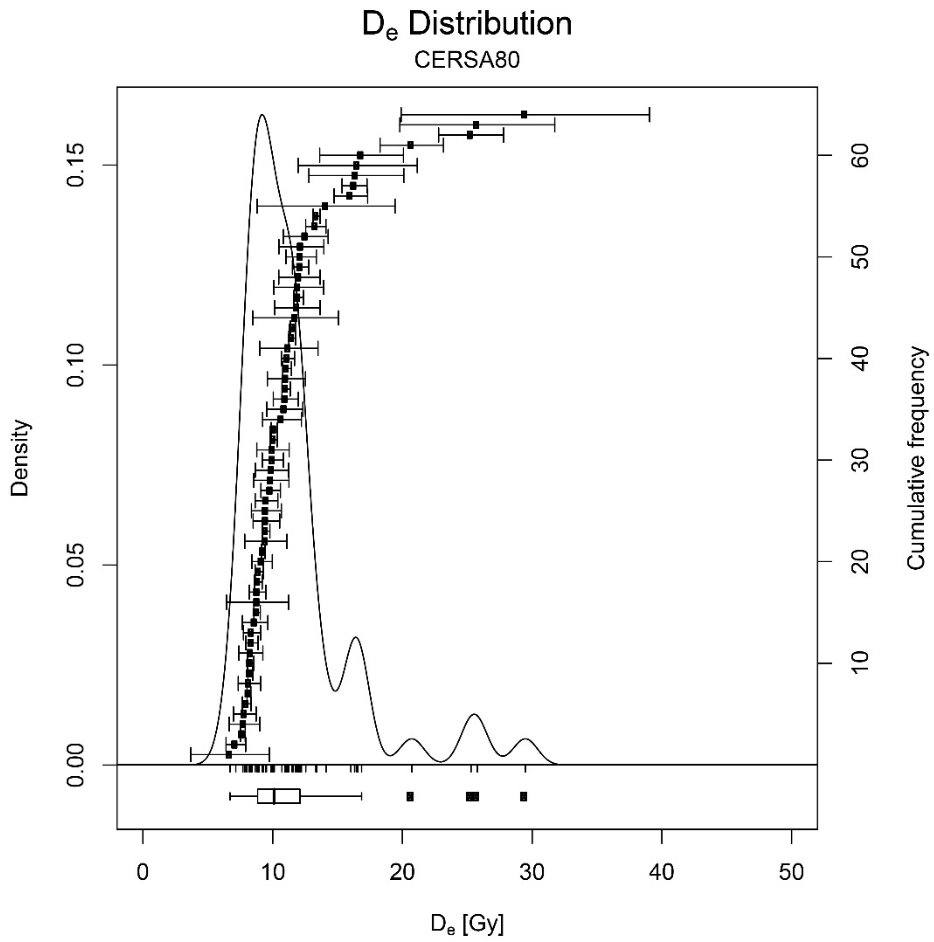
Equivalent dose distributions

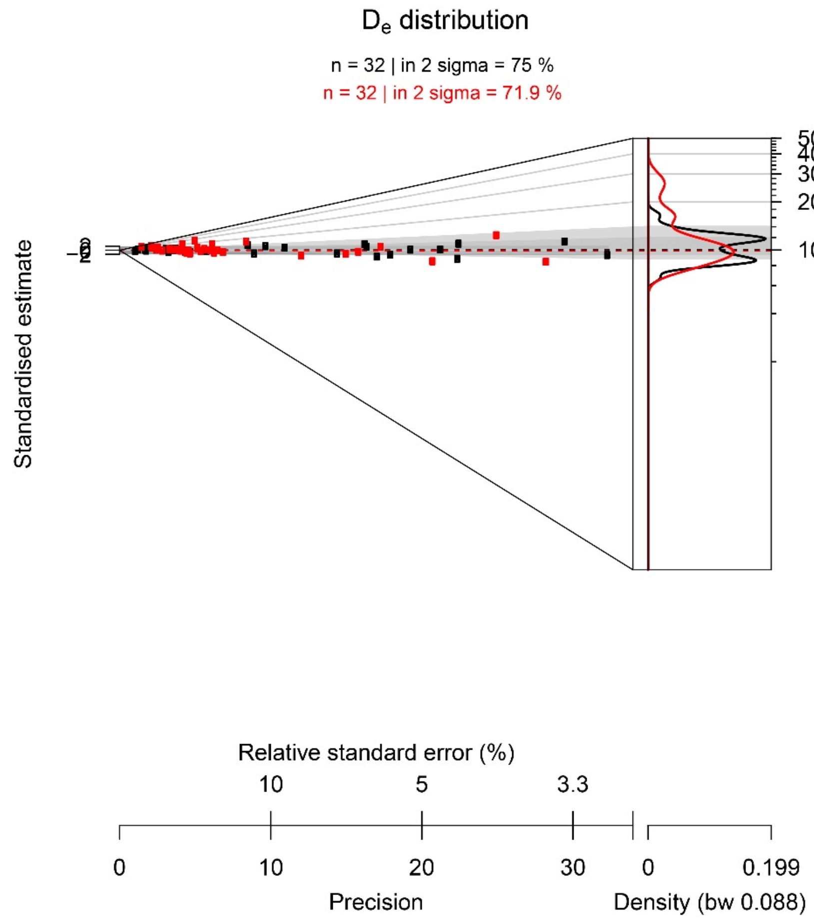
Appendix figure 14: (left) Kernel density estimate (KDE) and (right) Abanico plots for CERSA79. Black symbols = 150-250 µm aliquots, red symbols = 90-150 µm aliquots



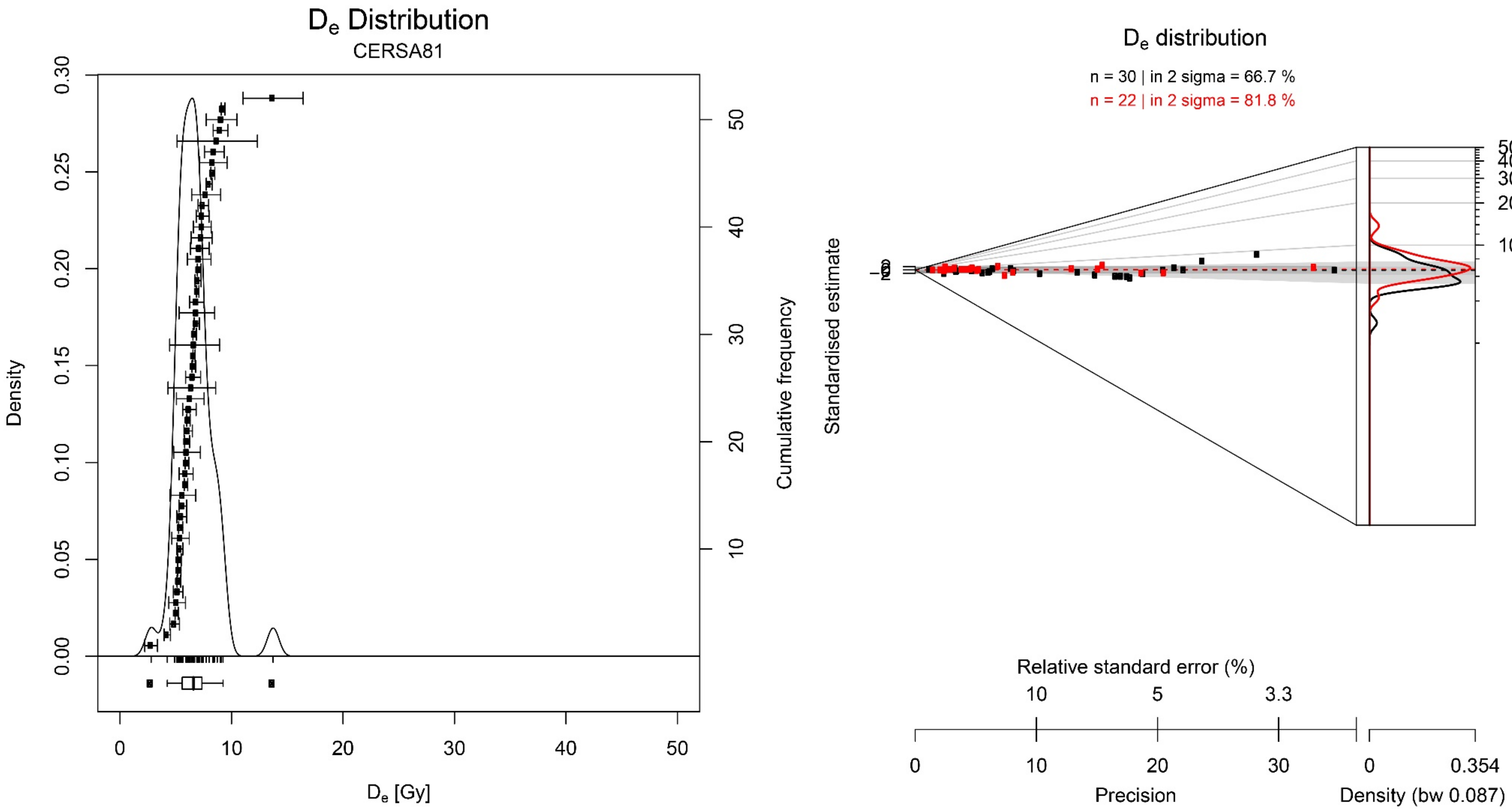


Appendix figure 15: (left) Kernel density estimate (KDE) and (right) Abanico plots for CERSA80

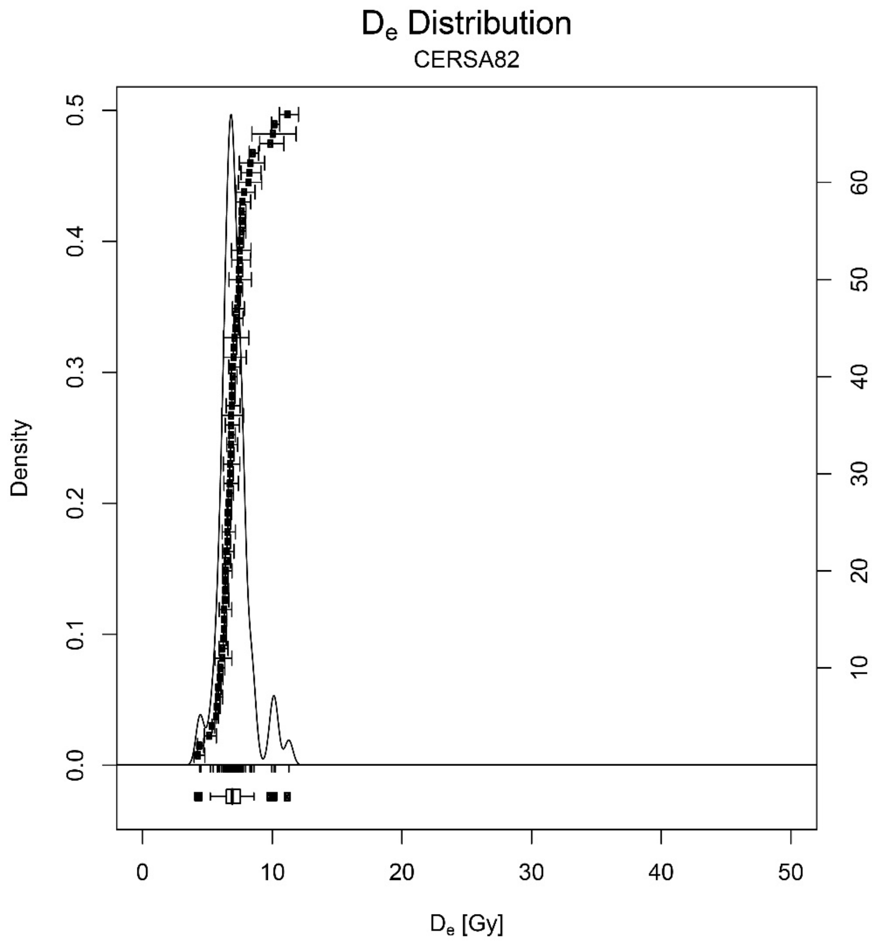


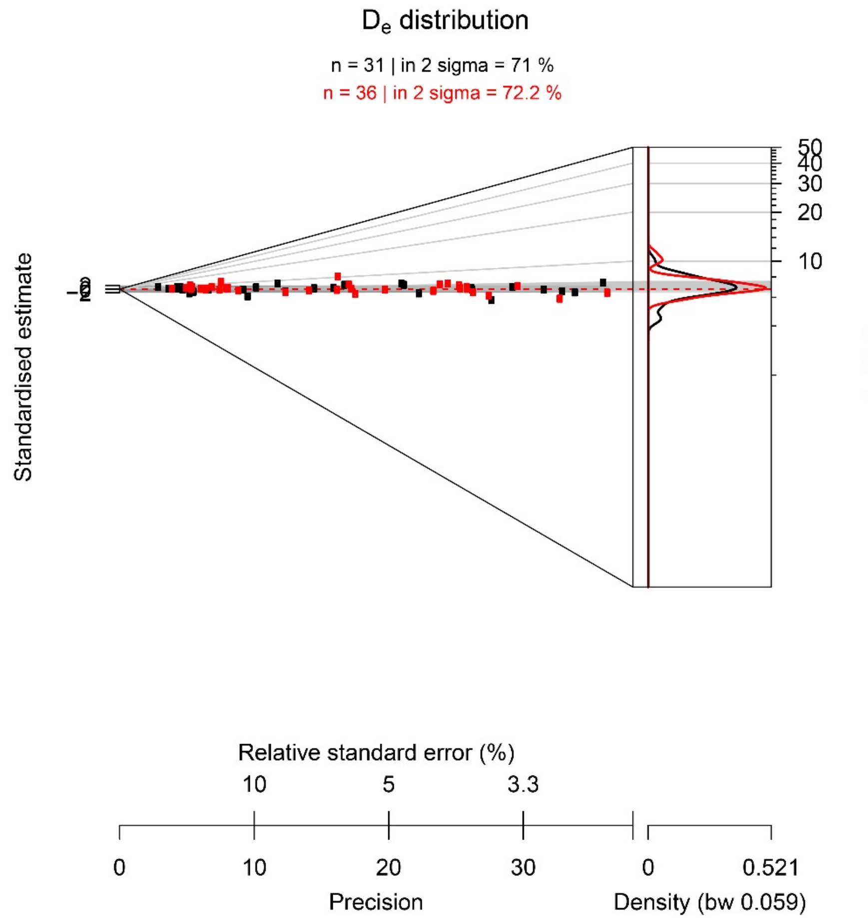


Appendix figure 16: (left) Kernel density estimate (KDE) and (right) Abanico plots for CERSA81



Appendix figure 17: (left) Kernel density estimate (KDE) and (right) Abanico plots for CERSA82





Appendix I: Metal finds catalogue

A small group of metal finds were recovered, including 11 copper alloy finds, 4 lead finds and 134 ferrous fragments. Much of the latter are very corroded lumps of iron from topsoil and subsoil deposits across the site. The more discernable iron finds include nails, wire and a pony shoe. The shoe is perhaps the most interesting of the ferrous material and is very similar to a 17th century example from the Royal Manor of Fontevrault (Grove Priory, nr Leighton Buzzard, see Duncan 2013).

The copper alloy finds (n=11) are similarly poorly preserved, although there are two conjoining fragments from a belt buckle likely to be of medieval date (SF32, 15005), broken at the fold with very slight traces of gilding. Lead objects (n=4) appear modern in date, and are from mixed deposits.

Appendix table 33: Copper Alloy finds

Context	Material Type and description	Quantity	Weight (g)
15001	SF1 Copper Alloy Object: Very fragmentary remains of cu alloy within soil	1	1
15005	SF32: Copper Alloy Object: Very fragmentary plate from probable buckle, with slight traces of gilding, broken at bend with perforation for rivet and tongue. Two frags, 10 x 15mm and 10 x 14mm. (MEDIEVAL)	2	2
17004	SF17: Copper Alloy Object: 11 x 6 x 1mm, small perforated strap with semi circular end, some corrosion	1	1
17005	SF14: Copper Alloy Object: Die cast discoid cu alloy button (Diam 17mm). Incomplete with possible stub of drawn wire loop fastening. No decoration visible, may have been cloth covered.	1	3
8002	Copper Alloy Object; Modern cu alloy objects frags include mount/picture hanging hook, wire and washer (MODERN)	4	7
20001	Copper Alloy Object: Plate, 18 x 15mm, looks enameled (MOD)	1	2
22002	Copper Alloy Object; Round blank, 24mm x 1mm, probably coin with corroded surface	1	6
TOTAL		11	22

Appendix table 34: Ferrous objects

Context	Material Type	Short Description	Quantity	Weight (g)
3002	Ferrous Object	Three fragments of corroded nail	3	9
6002	Ferrous Object	Ferrous nail 44 x 7mm, 14mm at head	1	3
12002	Ferrous Object	Small nail, 34mm x 4mm shank, 9mm head (broken into two frags)	2	2
13002	Ferrous Object	89 x 8 x 6mm nail with rectangular shank.	1	14
15001	Ferrous Object	30 x 9 x 5mm; two fragments from ?horseshoe nails	2	4
15002	Ferrous Object	Iron nail fragments, including two with surviving oval heads (<16mm diam), all have rectangular shafts (8 x 8mm)	7	22
17001	Ferrous Object	Fragment of ?agricultural blade (95 x 28 x 10mm), ferrous wire (83 x 3mm)	2	111
17002	Ferrous Object	53 x 14 x 17mm, corroded ferrous lump	1	48
18001	Ferrous Object	Frags of corroded iron (MOD)	9	27
18002	Ferrous Object	Fragments of iron objects, including nails, plate, corroded lumps	41	66
18003	Ferrous Object	Frags of corroded iron (MOD)	9	59
19001	Ferrous Object	Six fragments ferrous objects (MOD), including hacksaw blade, nail and wire	6	164
19002	Ferrous Object	Various fragments iron / possible metal working debris/offcuts	22	197
19003	Ferrous Object	Very corroded fragments	2	12
19004	Ferrous Object	63mm x 5mm, corroded iron, possible nail shank (round profile)	2	6
19005	Ferrous Object	Two nail fragments, 20 x 15mm head, 5 x 3mm rectangular shank	2	12
20001	Ferrous Object	220 x 5mm, bent rod, possible handle (MOD) 85 x 15mm, corroded iron bar (MOD) 5 nails (MOD) Lock fitting (MOD)	6	58
20002	Ferrous Object	Fragments of iron objects, including nails and corroded lumps	8	37
20004	Ferrous Object	Iron metal plate with two nails, very corroded - some sort of fixture/fitting (MOD)	1	63
22002	Ferrous Object	4 fragments modern iron nail, two screws, and wire, 2 x fragments pony shoe (12 x 6mm, 75mm breadth (est.)	7	108
TOTAL			134	1022

Appendix table 35: Lead objects

Context	Material Type	Short Description	Quantity	Weight (g)
12002	Lead object	Fragment of folded lead	1	10
15002	Lead object	16 x 9 x 7mm, incomplete lead object (MOD)	1	10
16006	Lead object	Oval, hollow perforated ?button, possibly die-cast 11 x 5mm	1	4
19002	Lead object	Thin plate, 30 x 28mm (MOD)	1	4
TOTAL			4	28

Appendix J: Building materials catalogue

Appendix table 36: Ceramic building material and mortar, archive catalogue

Trench	Context	Short Description	Quantity	Weight (g)
6	6002	Very abraded fragments CBM	8	55
8	8001	Very abraded fragments CBM	2	9
8	8003	Small abraded frag tile	1	4
9	9002	Small abraded frags tile	4	11
11	11001	Abraded frags tile	2	30
11	11002	Small abraded frag tile	1	12
12	12001	Very small, abraded frags	10	16
12	12002	Tiny frag tile	1	1
13	13002	Small abraded frags tile, possible brick fragment	4	35
14	14002	Fragment of brick	1	140
15	15001	Abraded small frags tile and brick	9	83
15	15002	Abraded CBM - possibly just burnt clay	1	9
16	16001	Very worn and small frag tile	1	4
18	18001	Small fragments brick and tile, not very abraded but very fragmentary, some burnt	36	105
18	18002	Small fragments brick and tile, not very abraded but very fragmentary	21	90
18	18003	Fragments brick and tile, not very abraded	7	87
19	19001	Very small fragments brick and tile, not very abraded but very fragmentary	25	51
19	19002	Small fragments brick and tile, not very abraded but very fragmentary, some burnt	33	127
19	19005	One frag brick, one smal frag tile	2	29
19	unstrat	Tr19: Small fragments brick and tile, not very abraded but very fragmentary	8	139
20	20001	Small fragments brick and tile, not very abraded but very fragmentary	6	81
20	20004	Small fragments brick and tile, not very abraded but very fragmentary	9	45
21	21002	Small worn fragment tile	1	7
22	22001	Fragments tile	4	84
22	22002	Small fragments brick and tile, fragmentary with some abrasion	26	146
	TOTAL		223	1400

Appendix K: Glass catalogue

Glass numbers 145 fragments of vessel and window glass, almost all derived from mixed topsoil and subsoil deposits. Over 100 of the fragments were associated with the test pits at the Old Forge (Test Pits 18 and 19). As well as the relatively modern material, this does include two fragments from potential post medieval wine bottles (19003 and 19005).

Appendix table 37: Glass catalogue

Trench	Context	Material Type	Short Description	Quantity	Weight (g)
3	3002	Glass	One tiny frag glass	1	1
6	6002	Glass	Two small frags glass (MOD)	2	1
11	11001	Glass	Two small frags glass (MOD)	2	2
11	11002	Glass	Very tiny fragment glass	1	1
12	12001	Glass	Two small frags and one long necked bottle, clear glass (MOD)	3	12
13	13002	Glass	Two frags bottle glass (MOD)	2	15
18	18001	Glass	Mixed vessel and bottle glass, includes rim from wine bottle with applied collar, predominantly MOD but rim may be post med	12	22
18	18002	Glass	Very mixed bottle, vessel and window glass, fragmented (MOD)	49	99
18	18003	Glass	Small fragment tarnished glass, bottle and vessel, possibly post med	4	8
18	18004	Glass	Small fragment tarnished glass	1	1
19	19001	Glass	Very mixed bottle, vessel and window glass, fragmented (MOD)	12	13
19	19003	Glass	Small fragment tarnished bottle glass, post medieval	1	3
19	19005	Glass	Bottle glass from rounded bottle, post medieval	1	28
19	19002	Glass	Small frags window / vessel glass (MOD)	21	14
19	unstrat	Glass	Tr 19: Mixed bottle, vessel and window glass of mixed post med / MOD date	6	37
20	20002	Glass	Mixed bottle, vessel and window glass, fragmented (MOD)	7	12
20	20004	Glass	Small fragments vessel / window glass (MOD)	3	2
22	22001	Glass	Vessel glass (MOD)	6	87
22	22002	Glass	Very mixed bottle, vessel and window glass, fragmented (MOD)	11	59
	TOTAL			145	417

Appendix L: Clay tobacco pipe catalogue

Appendix table 38: Clay tobacco pipe, archive catalogue

Trench	Context	Short Description	Quantity	Weight (g)
15	15001	Stem fragment, 2mm perf.	1	4
16	16001	Stem fragment, 2mm perf.	1	3
18	18001	Stem fragments, both 2mm perf	2	4
18	18002	Stems (2 and 3mm perfs) and 1 piece of bowl	17	27
18	18003	1 bowl fragment, four stems, off centre perforation, 2mm	5	10
19	19002	Stem fragment, 2mm perf.	1	4
19	19003	Stems (perf 3.5mm) and 1 piece of bowl, marked 'PE', incuse, on pedestal heel. Product of Philip Edwards I or II (fl. 1649-1702/3).	6	18
19	19004	Stem fragments, all 3mm perf	3	6
19	19006	Half a stem frag	1	1
20	20001	Stem, 2mm perf	1	3
20	20002	Stem, 3mm perf	1	3
20	20004	Stem, 24mm x 6mm diam, perf. 2mm	1	4
22	22002	One stem stamped with maker and place; "...stol" on one side of stem (presumably Bristol) and "O..." on the other, 1 bowl fragment. Stems all 2mm perf.	10	12
19	unstrat	Stems (2 and 3mm perf) and 3 pieces of bowl, one marked with cartouche, bottom line reading what might be 'IORN'	9	22
	TOTAL		59	121

Appendix M: Charcoal catalogue

Appendix table 39: Charcoal, archive catalogue

Trench	Context	Short Description	Quantity	Weight (g)
3	3004	Burnt organic; charocal, coal fragments	3	1
8	8001	Burnt organic; charocal, coal fragments	1	2
15	15001	Burnt organic; charocal, coal fragments	1	3
15	15002	Burnt organic; charocal, coal fragments	10	8
18	18001	Burnt organic; charocal, coal fragments	46	54
18	18002	Burnt organic; charocal, coal fragments	180	268
18	18003	Burnt organic; charocal, coal fragments	100	144
18	18004	Burnt organic; charocal, coal fragments	4	4
19	19001	Burnt organic; charocal, coal fragments	36	42
19	19002	Burnt organic; charocal, coal fragments	96	98
19	19003	Burnt organic; charocal, coal fragments	10	15
19	19004	Burnt organic; charocal, coal fragments	9	10
19	19005	Burnt organic; charocal, coal fragments	13	5
20	20004	Burnt organic; charocal, coal fragments	1	1
21	21001	Burnt organic; charocal, coal fragments	1	1
21	21002	Burnt organic; charocal, coal fragments	2	3
22	22001	Burnt organic; charocal, coal fragments	3	11
22	22002	Burnt organic; charocal, coal fragments	4	16
	TOTAL		520	686

DigVentures

Oldbury Camp Character Trail

Teacher and parent's guide to the site

Hello, and welcome to Oldbury Camp! This guide will help you navigate the site, provide some hints on how to get the kids thinking about the archaeology here and hopefully help you answer any questions they have.

Please feel free to ask the archaeologists on site any questions you have.

There are several different stages to the site so to help tell its story, we've created a character trail for you to follow. There are seven characters for you to find.

Illustrations by Walter Newton

Saint Arilda

- Saint Arilda is a Saint from Oldbury-on-Severn, she lived a long long time ago probably about 1500 years ago in the 5th or 6th century AD. She may also have been born in Wales, although historical sources aren't 100% sure on this.

- Her story is quite violent and may not be appropriate for younger children.

- There are a couple of churches named after her in the area, which shows how important she has been in the past in the region.

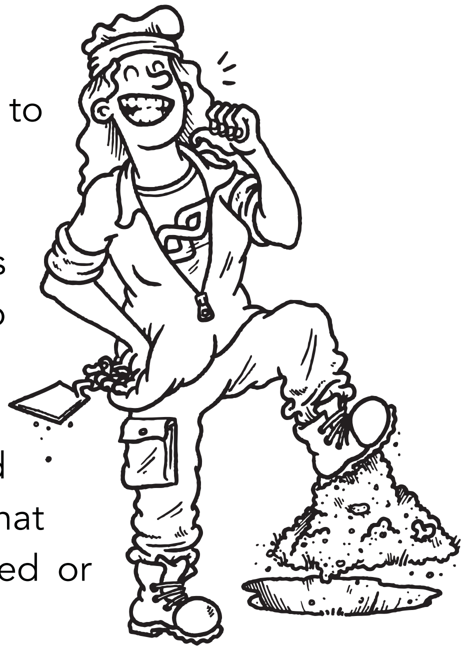
- She was a very religious woman who dedicated her life to being holy, and became a nun. There is very little information about her, but we know that for women who chose to live like this, it meant that they could never marry or have any kind of relationship with another person.

- Unfortunately for Arilda, a young man fell in love with her, and tried to seduce her. When she rejected him he chased her down and murdered her by cutting of her head.

- There is a well in Kingston, Oldbury-On-Severn, where the stones are stained red from the water. Local legend has it that the stones are stained by Saint Arilda's blood. (In fact, it's a type of algae that stains the stones).

- She was buried at Gloucester Cathedral, and monks said that many miracles were done in her name.

The Archaeologist



- Archaeologists are people who's job it is to investigate things and people from the past.

- Sometimes (but not always!), this involves excavation, where we dig at sites of interest to try to find out more about them.

- We are interested in people of the past and how they lived, so we often look for buildings that might contain clues about the people that lived or worked there.

- When we're not digging, we do other things. One of the most important things is called a 'post-excavation report' because when we dig things up they can never be put back exactly as they were. It's really important that we record precisely how we found everything that we find.

- We also have to investigate sites of potential interest before we start excavating. This can be months or even years of research and survey. This can be desk based, for example analysing previous research, or by geophysical or aerial surveys of the archaeological site.

The Footballer.

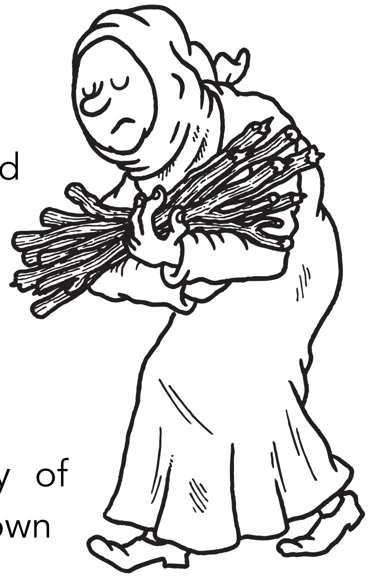
- When we were initially investigating the site, we noticed we were getting some really strange readings from our archaeological equipment.

- We thought it was some kind of really weird archaeological phenomenon however when we investigated further we found out that back in the 1960s there was a football pitch here! It's also previously been a cricket pitch.

- It's continued to be an important place for the local community long after the archaeology was forgotten.

- It shows us that there are old things all around us that have been repurposed, can the kids think of any other examples of old places that have been used for modern purposes?

The Medieval Villager.



- In Medieval Britain, your position in life depended greatly on where you were in the feudal system. This is a system that explains the basic hierarchy of society at the time, although it was probably more complex in reality.

- The feudal system basically means a hierarchy of people, from the king, to the lords and ladies down to peasants.

- The king appointed the lords, and they had most of the power (and money). They allowed people to live on their land in return for their homage, which meant working for them, and sometimes fighting for them in their battles.

- Life for a villager would mainly have revolved around the farm, sowing in the spring, harvesting in the summer and early autumn, then readying the fields for the next year by ploughing in the autumn and early winter. Then Making sure that all of the animals were kept healthy through the winter.

- It was important that Medieval people could grow enough food to feed themselves through the winter, the hardest time would have been the spring, when food stores were likely to be running low, but nothing ready to eat would have been growing yet.

- A poor harvest meant that starving during the winter was a very real possibility – life was very hard at the bottom of the feudal system!

The Roman Trader.

- The Romans first came to Britain in 55 and 54 BC, under Julius Caesar. The first attempt at invasion was unsuccessful, but the second was better, and the Romans managed to get a pro-Roman king into power.

- Britain and Rome then enjoyed an amicable trade relationship for nearly 90 years, until in the Romans invaded again in 43AD this time under Emperor Claudius. After this invasion, Romans settled permanently in Britain.

- They took over most of southern England; the north of England and Scotland proved more difficult for the Roman's to conquer, and the battle for the northern parts of Britain lasted for decades.

- They settled here and became a very important part of the trade economy. Here at Oldbury Camp we know that there have been finds of Roman coins and pottery.

- One of the most well known Roman sites in Britain is found in nearby Bath, where the Roman's built a temple complex around Britain's only geothermal spring as they believed the water was a gift from a goddess.

The Spy.

- "Toot" comes from an Old English word, which means to spy or to peep.

- The Old English language spread across large parts of the UK with the invasion of the Anglo-Saxons in the early middle ages; it's possible that it became known as a lookout point around about this time. Although it may have been used as a lookout point much earlier than this as well.

- There are lots of hills and hillforts across the country that are associated with the word "toot" not just Oldbury.

- What makes Oldbury different is it's actually a geographically low lying fort, which is fairly unusual, although there are other examples that have been more appropriately named marsh forts.

- Of course we can't be sure, but if the name-based evidence is anything to go by then the toot may have been used as a lookout point. It would perhaps have been manned by a spy on the lookout for danger from raiders or angry rebellions.

Iron Age Villager.

- The hillfort at Oldbury camp dates to the Iron Age. We have found pottery from this time, and we know that there are some other hillforts from that time in the region as well.
- What do the kids think 'hillfort' might mean? Well, like the name suggests, hillforts are normally high up on top of a hill so that people that lived there could see any

enemies coming from afar, however Oldbury is a bit different because it lies a lot lower than hillforts normally do. It's not actually on top of a hill, which makes it quite unusual.

- People usually had roundhouses in hillforts, and these houses were where they would have done many of the daily tasks such as making food.

- The people who lived here would likely have been members of a small farming community.

- Likely to have grown grains such as emmer wheat, spelt wheat, barley, rye and oats. Also would have farmed animals such as cattle, sheep and pigs.

- Horses and dogs were used for helping on farms; some sources suggest that Britain was a big exporter of hunting dogs during the Iron Age.

- Women would likely have been responsible for weaving textiles using an upright loom. Materials for clothes and home wares were made from wool. Artefacts that archaeologists tend to find at other iron age sites come from these looms, spindle whorls and loom weights are a relatively common find.

- The villagers made clay pots sometimes with simple decorations on the exterior surfaces.

- The bank around the hillfort is about 2m high. This would have taken a long time to build up, as all the work would have been done by hand. The length of time it took would have depended greatly on how many people were around to do the work.

To find out more about the dig at Oldbury Camp visit our website at: https://digventures.com/oldbury-camp

Oldbury Camp Character Trail

Hello, and welcome to Oldbury Camp! Our characters will help you understand a bit more about our archaeological site. Have a look for each character as you walk around the site, and see if you can answer the questions.

There are seven characters for you to find.

Illustrations by Walter Newton

Saint Arilda

1. Welcome to Oldbury Camp! I'm Saint Arilda, can you see my church? Can you see the DigVentures team yet? Tell me what you can see on the archaeological site so far.

2. Did you know I'm quite a famous local Saint? Have you heard any stories about me? If so, what have you heard?

3. When I was alive I dedicated my life to religion and became a nun, what do you think my daily life might have been like?

The Footballer

1. I used to play football here at Oldbury Camp, when the archaeologists were measuring the site they noticed that there was something a bit different about where we used to play on top of the hillfort - it's really flat! Can you see from the survey which part is the football pitch?

2. I think it's really cool that this old place has been used in modern times. What else do you think the hillfort could be used for?

The Archaeologist

1. Hi there! I'm an archaeologist for DigVentures! Have a look at the archaeologists that are working right now, what can you see them doing?

2. Have the archaeologists found anything yet? What can you see?

3. What kinds of things do you think archaeologists might do to prepare before we start digging? Ask the archaeologists you can see if you need help!

The Medieval Villager

1. Hi, I'm a Medieval Villager here at Oldbury, and I spend most of my time farming. What kinds of things do you think I might grow here?

2. Can you see the furrows I made with my plough? What do you think that might do to the archaeology below the ground?

3. What do you think my daily life would have been like? What times of year do you think would have been the hardest for me?

The Iron Age Villager

1. Hello! I'm an Iron Age villager and I'm one of the very first people to have lived here at Oldbury Camp. It was my people who built the hillfort. What do you think a hillfort should look like?

2. You should be able to see the banks surrounding this part of the site here, how many people do you think it would have taken to build them?

3. It's possible that this space wasn't really a 'fort', if it's not really a fort, what do you think this space might have been for?

The Roman Trader

1. Hello! I'm a Roman Trader and I settled in Britain after a successful Roman invasion in 43 A.D., I settled here in Oldbury and now I trade goods with lots of different people. What kinds of things do you think I might trade?

2. Have you seen the Roman coins that I used? What similarities can you see between my coins and the coins that you use?

3. Have a go at designing your own Roman coin on the back of this page!


IVLIVS
CAESAR


ΑΜΦΙ
ΠΟΛΕΙΤΩΝ

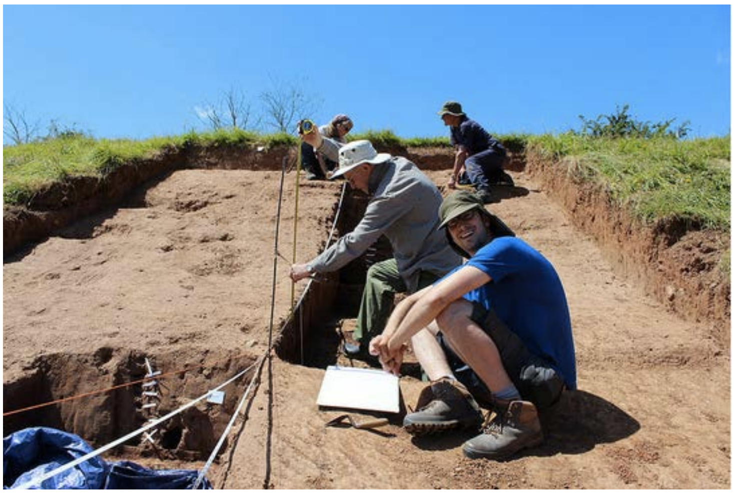
The Spy

1. You might have heard that this part of this site is known as 'The Toot', 'Toot' means a look out place, and come from an Old English word meaning to peep or to spy. What do you think I might have been looking out for?

2. Although Oldbury Camp is known as a 'hill fort' it isn't actually up very high and could actually be a 'marsh fort' instead. Do you think this would have been an advantage or a disadvantage for look outs?

3. Have a go at drawing the view from The Toot, pick any direction and think about how far into the distance you can see

Appendix O: Venturers and local community engagement



People of all ages joined forces to investigate the unusual hillfort at Oldbury Camp.

We were joined onsite by 59 volunteers actively participating in fieldwork.

Many had never tried archaeology before, and said it was the opportunity to investigate 'a mystery on our doorstep, with likeminded people from our community' that brought them here.

Locally based volunteers were joined by others from Bristol, Derby and Devon, as well as two travelling from New Zealand.

They were all determined to get to the bottom of this mystery together.

Three school groups and one YAC group, including 76 children, came to visit the excavation and complete the Oldbury Camp Character Trail.

They learned about Iron Age people, Roman traders, interviewed archaeologists and even got to grips with the basics of geophysics… all while exploring a local outdoor monument.

They even did some excavation, and learned how to identify and sort artefacts in the Finds Laboratory in the Oldbury Memorial Hall.

For many of our Ventuers, finding a piece of pottery or fragment of bone is an incredible privilege.

Jenni's top moment from her dig was this fragment of pot, 'Finding a large piece of black pottery was my highlgiht – no doubt it's the crux of the excavation!'

From start to finish, people have got involved in all aspects of the dig, including Mary and Sue, who did the initial geophysics.

Many of the volunteers and visitors to the dig had been involved in many aspects of the broader AFL project.

People were able to get involved in all aspects of the dig, and learn brand new skills, like the basics of soil science and geoarchaeology, which could be combined with local knowledge of the geology to provide helpful insight into the site's formation.

More experienced Venturers were able to pass on their and knowledge to those who were trying archaeology for the very first time.

Peer to peer learning is a great way to reinforce new skills and build confidence within the team.

Others learned new skills, like photogrammetry and GIS, that can be used to help share archaeological discoveries with a much wider online community.

We held toolbox talks in geoarchaeology, photogrammetry, OSL dating, finds recovery and archiving, local history, as well as excavation techniques.

Venturers were able to take part in all aspects of the excavation, including some of the most cutting-edge scientific techniques.

Together, they assessed soil samples for Optically Stimulated Luminescence, generating relative chronology live in the field!

Understanding more about such an enigmatic monument was a real boost for all.

Sarah's dig highlight was 'digging the hillfort bank, and being able to see how it had been constructed.'

Despite some interesting weather events (from heat-waves to torrential rain), the Venturers were happy to keep digging!

Sue's dig highlight was getting to dig a complete cow skeleton, 'it was great training, and a new skill I learnt.'

Many of the village residents also got heavily involved; five households offered up their gardens for excavation, avidly following the progress and providing as many tea and biscuits as our Venturers could devour.

Our series of weekend site tours was packed, with each guide hosting up to 30 people.

In total, 185 people attended the tours to learn about the archaeology at the fort.

Many returned for multiple tours, so that they could see what progress we'd made in the intervening week.

Residents and volunteers joined specialist David Dawson to learn about ceramics – including Val and Eddie from the Old Forge who have a great collection from their gardens.

Our 'Bring Out Your Finds' event attracted over 30 local residents to come and see our finds and bring along their own…

The schedule of evening lectures also left the Oldbury Memorial Hall with standing room only.

In total, our lecture programme was attended by 247 people, with over 100 coming to the final round-up talks we did in Oldbury and Pilning in November 2017.

Most importantly, the Venturers also recorded all of their finds on Digital Dig Team, making the discoveries immediately accessible to a much wider online community, with news from the excavation reaching up to 304,000 people across Facebook, Twitter and Instagram.